

PERCEPTIONS OF, AND SATISFACTION WITH LEADERSHIP OF  
DIFFERENT-SEXED LEADERS BY SUBORDINATES OF BOTH SEXES

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DIFFERENT-SEXED LEADERS BY SUBORDINATES OF BOTH SEXES

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## CHAPTER I

### INTRODUCTION

#### Leader Behavior: The Concept and Major Theories

Leadership has been a popular topic throughout the literature of industrial-organizational psychology. Many articles have been written attempting to determine which leadership approach should be implemented to best manage people. Three major conclusions become evident after reviewing the leadership literature. First, the amount of theoretical research far outweighs the empirical research done on this topic. Everyone seems to have an idea of the "best" method to lead subordinates. Unfortunately, such ideas are usually based on experience and attitudinal orientations rather than on sound experimental data. Second, there is little agreement among theorists as to what leadership as a concept actually means. Third, the research designs previously employed have been too simplistic to investigate the interactional phenomenon of leadership. Stogdill (1974) has stated that research designs in this area must include leader characteristics, follower characteristics, group characteristics, and criterion measures. Only by focusing on the interactions between these four classes of variables, can a true understanding of leadership arise.

## Theories of Leadership

Several theories of leadership have been presented. The earliest theory is generally termed the "great man" theory of leadership. These theories are influenced by Galton's (1879) notion of the inheritance of acquired characteristics. They attempt to explain leadership by basing it on inheritance (Jennings, 1960). This approach assumes that leaders possess two major attributes (Bales, Borgatta, and Couch, 1954): (1) they are able to perform certain instrumental tasks (i.e., planning and organizing); and (2) they are considerate toward their subordinates and reinforce group interrelationships. Persons possessing these qualities are assumed to be "great men" and are thought to be effective leaders. Learned behavior is not a relevant variable under this orientation.

The "trait" theory of leadership arose out of the "great man" theory. These theorists feel that it should be possible to scientifically determine the traits or qualities common among "great men." Once these qualities are specified it is hypothesized that individuals could acquire these leadership qualities through experience and learning. Thus, trait theory extends the "great man" approach by proposing that leadership can be learned (Steers and Porter, 1975).

A great deal of research occurred between 1930 and 1950 in search of traits that might be related to effective leadership. Some support was found for the trait theory



approach (Gibb, 1969): Good leaders were found to have physically appealing characteristics, to possess personality traits such as high need to achieve and dominance, and to have above average intelligence.

Environmental theories of leadership advocate the importance of the Zeitgeist (Hocking, 1924; Schneider, 1937). They propose that leadership is merely a function of the occasion (Murphy, 1941). A solution to a crisis is thought to be accomplished not through the instrumental behavior of an individual, but through the injection of leadership into the situation.

Both the trait and the situational theorists attempt to explain leadership as an effect of a unidimensional set of variables. This limitation led to personal-situational theories (Case, 1933; Gibb, 1954; Hollander, 1958, 1964). Stogdill and Shartle (1955) claim that this approach studies

leadership in terms of the status interactions perceptions, and behavior of individuals in relation to other members of the organized group. Thus, leadership is regarded as a relationship between persons, rather than as a characteristic of the isolated individual. When data for all the members of a group . . . are combined and interrelated, they provide a means for studying leadership in terms of the structural and functional dimensions of organization.

Humanistic theories deal with the problem of individual need fulfillment in a structured organizational setting. They contend that leadership can perform the dual role of modifying the organizational schema to provide freedom for individual self-actualization and at the same time aid the accomplishment

of certain organizational objectives.

McGregor (1966) suggests that two types of organizational leadership exists: Theory X, and Theory Y. Leadership under the Theory X approach assumes that individuals require direction and motivation before they will comply to organizational needs. Theory Y leaders recognize that individuals already possess motivation and desire for responsibility. Consequently, Y leaders attempt to manipulate organizational conditions to aid individuals to fulfill their needs. At the same time, group member efforts are being properly supervised to achieve organizational goals.

Argyris (1964) and Likert (1967) represent similar humanistic orientations. Argyris feels that an inherent conflict exists between the organization and the individual. Optimal organizational effectiveness will be attained only if leaders allow individuals to make a contribution to group goals by allowing need self-fulfillment. Likert suggests that group cohesiveness and productivity may increase if leaders understand the expectations of their subordinates. Some of these are freedom for responsible decision making and encouragement of self-initiative.

Exchange theories of leadership (Homans, 1958; Thibaut and Kelley, 1959) assume that socially significant interactions are reinforced because of their participation (Shaw and Costanzo, 1970). The outcomes of any social interaction are rewards and costs. These accrue to an individual as a

consequence of having participated in the interaction. Social interaction continues as long as the exchange between individuals is mutually rewarding.

The interaction-expectation approach has been widely researched (Homans, 1950; Hemphill, 1954; Stogdill, 1959; Bass, 1960; Fiedler, 1967; House, 1971; Evans, 1970; Yukl, 1971; Vroom and Yelton, 1973). Stogdill (1959) suggests an expectancy-reinforcement theory of role attainment. He proposes that group interaction engenders expectations among the members about future individual performance. These expectations become rigid through a process of mutual reinforcement. This theory measures individual leadership potential by determining the extent to which he "initiates and maintains structure in interaction and expectation" (Stogdill, 1974, p. 411).

At the present time, the contingency theory of leadership seems to be the most widely accepted. Unlike the theories previously discussed, the contingency view is a situational approach which attempts to classify both the leader and the situation (Kerr, Schriesheim, Murphy, and Stogdill, 1974). The leader variable is often operationally defined by a measure such as Fiedler's (1967) Least Preferred Co-worker or the Ohio State Leadership Study Variables of Consideration and Initiating Structure. The situational elements that need to be considered in any contingency theory fall into three major categories:

(1) subordinate considerations; (2) supervisor considerations; and (3) task considerations (Kerr et al., 1974). The contingency theorists thus hope to explain what the leadership position is and how it comes to exist through examination of the interaction between leaders and situational variables.

### Leader Behavior: Descriptive Orientations

Three major approaches have been employed by researchers to describe leadership behavior: trait, factor analytic, and behavioral. Each orientation deserves continued hypothesis formulation and empirical test based on data obtained from a range of organizational settings.

The trait approach attempted to determine the traits and characteristics associated with leadership. Stogdill (1948, 1974) compared results obtained from two previous surveys and found that a leader is characterized by:

. . . a strong drive for responsibility and task completion, vigor and persistence in pursuit of goals, venturesomeness and originality in problem solving, drive to exercise initiative in social situations, self-confidence and sense of personal identity, willingness to accept consequences of decision and action, readiness to absorb interpersonal stress, willingness to tolerate frustration and delay, ability to influence other persons' behavior, and capacity to structure social interaction systems to the purpose at hand (Stogdill, 1974, p. 81).

Stogdill concluded that these characteristics should not be considered singly. In order for these characteristics to have any diagnostic or predictive utility they must be considered in combination. The conclusion that personality factors may differentiate effective from non-effective leaders

should not be interpreted as a return to a "pure" trait orientation. These results should strengthen a new orientation, one characterized as the trait x situation approach.

The factor analytic approach brings together on the same factor those clusters of items that act alike in describing individuals in the sample under investigation. This results in factors that describe general or molar types of behaviors rather than specific details of those behaviors. Stogdill (1974) summarized the results of 52 factor analytic studies of leadership. He found that generalized leadership behavior could be adequately described by 26 factors. These factors were further categorized in the order of their frequency:

- (1) These factors describe the leader as making effective use of interpersonal, administrative, technical and intellectual skill.
- (2) The next most frequent set of factors is concerned with the leader's relationship with his group.
- (3) Next in frequency are factors concerned strictly with personal characteristics of the leader (Stogdill, 1974, p. 95-96).

Stogdill stated that these results indicate that no large number of variables are required to adequately describe a leader.

The behavioral approach was developed because the trait approach ignored actual leader behavior and situational determinants of leader behavior. As a result, the Ohio State Leadership Studies were organized by Shartle in 1945. This research group attempted to describe an individual's behavior

when he acted as a leader in a group or organization. The first form of the Leader Behavior Questionnaire was developed by Hemphill and Coons (1957). They developed a list of 1800 items that described various aspects of leadership. These items were then sorted by individuals into nine categories or subscales. Only the 150 items assigned to the same categories by all sorters and these were retained to form the questionnaire.

Halpin and Winer (1957) performed a factor analysis to determine the smallest number of dimensions required to describe leader behavior as perceived by the leader's subordinates. They isolated two factors: Consideration and Initiating Structure. Halpin's (1957) Leader Behavior Description Questionnaire (LBDQ), a Likert-type 40 item instrument used to measure these two dimensions, has subordinates rate their superiors on 15 consideration and 15 initiating structure items. In other words, the LBDQ measures subordinate perceptions of supervisory behavior.

These dimensions have been defined in the following manner (Fleishman and Peters, 1962, p. 128):

Initiating Structure(s): Reflects the extent to which an individual is likely to define and structure his role and those of his subordinates toward goal attainment. A high score on this dimension characterizes individuals who play a more active role in directing group activities through planning, communicating information, scheduling, trying out new ideas, etc.

Consideration (c): Reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas, and consideration of their feelings.

A high score is indicative of a climate of good rapport and two-way communication. A low score indicates the supervisor is likely to be more impersonal in his relations with group members.

Research has been undertaken in the military, educational institutions, and industrial settings examining the relationship between variation in the C and S dimensions and various effectiveness criteria. In general, leaders are rated by their subordinates as being more effective when both the consideration and initiating structure indexes are high. Military groups tend to exhibit more cohesive behaviors when their leaders are high on both dimensions (Halpin, 1954; Hemphill, 1955; Holloman, 1967). In the educational setting, both first (teacher) (Greenfield and Andrews, 1961) and second level principals (Keeler and Andrews, 1963; Hood, 1963) leader behavior (consideration and structure) tend to influence achievement of students.

The C and S dimensions have been studied extensively in industrial settings. Skinner (1969) found a curvilinear relationship between supervisory consideration and employee turnover and grievances. In other words, as consideration increases, grievances may decrease and then level off. Skinner's results differ from those reported by Fleishman and Harris (1962) where supervisory initiating structure was not found to be curvilinearly related to grievances. Fleishman (1957) also found that the relationship between consideration and structure and absenteeism differed in productive and non-productive situations. Absenteeism was found

to be low in both groups where supervisors were described as being highly considerate. On the other hand, absenteeism tends to be high in production oriented settings where supervisors are described as being highly structured. Stogdill (1974) summarized the results of 29 studies dealing with the relationship between leader consideration and structure and group productivity, satisfaction, and cohesiveness. He found that:

- (1) Group productivity is somewhat more highly related to structure than consideration.
- (2) Member satisfaction is somewhat more highly related to consideration than to structure.
- (3) Group cohesiveness is related about equally often to consideration and structure.
- (4) Several studies indicated that consideration and structure interact to influence productivity and satisfaction (Stogdill, 1974, pp. 395-397).



## CHAPTER II

### SEX DIFFERENCES IN LEADERSHIP

Although leadership has been studied extensively, little is known about sex differences in leadership. Parsons (1955) hypothesized that all groups possess both task and socio-emotional elements. He thought that these group functions were mutually exclusive and complementary. Parsons also suggested that task functions are affiliated with masculine behavior, while socio-emotional functions are associated with female behavior. His proposal implies that: (1) major behavioral differences between men and women in group settings exist and (2) the type of leadership males and females can be expected to assert differ. Three major research orientations have been employed to assess the ideas of Parsons and other theoreticians: general opinion surveys, simulated-laboratory experiments, and actual leadership situations.

One way to investigate the possibility of differences in leadership behavior is by general opinion survey. Several opinion surveys suggest that females are not perceived as possessing behaviors appropriate for organizational leadership. Bowman, Wortney, and Greyser (1965) conducted a comprehensive survey of the attitudes of 2,000 executives--half of them male, and half of them female--to discern the role of females in management. They found that male

executives rated their attitude toward female executives in the mildly favorable to the mildly unfavorable range. Forty-eight per cent of the comparable female executive sample rated their attitudes in the strongly favorable range. Although the majority of males sampled felt that female executives had no noticeable effects on production or efficiency, one third of the male-executive sample felt that female executives did have a detrimental effect on subordinate morale. Fifty-one percent of the males sampled felt that women were emotionally inadequate for supervisory duties. Eighty-one percent of the males surveyed stated that males do not feel comfortable with female superiors. When males were asked whether they would feel comfortable working for a woman, twenty-seven percent answered negatively. More than three-fourths of all persons interviewed reported actual work experience with females. Bowman et al. (1965) concluded that those who report such relationships seem more likely to temper or eliminate their negative attitude toward women in management.

Similar results were obtained by Van Gilmer (1961). He found that sixty five percent of male managers surveyed felt that female supervisory performance would be inferior to men. Some of the reasons given were that females have a higher absenteeism rate than males, that females are more neurotic, and that females have more work-related problems than men. More recently, Van Gilmer (1971) has suggested that females may not be accepted as administrators because they are evaluated

on the basis of their job behavior rather than on the way they perform the technical aspects of their job.

Recent research by Bass, Krusell, and Alexander (1971) extended, but did not completely support, the previously cited research. They administered a questionnaire which gave an indication of how male managers perceived females and their relationship to work. Analysis of the managers' responses revealed that certain factors influence their ability to accept women as equals in working situations. Managers were found to be strongly concerned with deference. Women were not perceived as being less capable than men, but managers did indicate that they thought other men and women would be uncomfortable with a female manager. Respondents also felt that female managers were less dependable because of certain "biological" and "personality" characteristics. Further classification of the data in terms of the managers' level of interaction with females (none, subordinate, peer, superior) failed to support Bowman et al. (1965) and Gilmer (1961). Bass et al. (1971) found that managers who did not work with women had more positive regard for women than those managers that did. In addition, they found that managers who had female co-workers had more negative attitudes toward working women than those managers who had no such interaction. The authors suggested that these attitudes might be minimized if male-female interaction took place on an equal basis and if the contact was sanctioned by custom or law.

Rosen and Jerdee (1974) conducted a survey-experiment among participating managers who were given a series of incidents and were required to evaluate them and choose between alternative organizational decisions. The design of this survey had an experimental feature because the questionnaire had two versions. The forms differed only in the sexes of the employees involved in the incidents. Although male and female respondents did differ in their evaluation of the incidents, it should be recognized that the female respondents comprised only 5.3% of the sample. The researchers concluded that social and psychological barriers continue to exist for females interested in managerial or professional careers. Two general patterns of sex discrimination were disclosed in the survey.

- (1) There is greater organization concern for the careers of men than there is for those of women, and
- (2) There is a degree of skepticism about women's abilities to balance work and family demands (Rosen and Jerdee, 1974, p. 58).

The survey evidence implies that managers possess mildly unfavorable to strongly unfavorable attitudes toward women in management. The data suggest that managerial people perceive the existence of sex differences in leadership behavior. This difference might be accounted for either by the existence of sex role stereotypes or by actual behavioral differences.

Schein (1973) investigated the relationship between

sex-role stereotypes and management characteristics. Middle line male managers were asked to fill out forms of a Descriptive Index. Three forms of the index were developed. All contained the same descriptive terms, but one asked for a description of women in general, while another asked for a description of men in general, and a third asked for a description of a successful middle manager. Schein confirmed the hypothesis that successful middle managers are perceived to possess those characteristics, attitudes, and temperaments more commonly ascribed to men than women.

Rosen and Jerdee (1973) examined the way sex role stereotypes-perceptions and expectations of what constitutes appropriate behavior for males and females--influence the evaluations of male and female supervisory behavior. Undergraduate students and bank supervisors were required to read one of six possible supervisory problems (with either a male or a female supervisor and with eight male, female, or mixed subordinates) and to evaluate the effectiveness of four supervisory styles. They found that the efficiency of certain supervisory styles were subject to the influence of the sex of the subordinate and supervisor. A reward style was rated more effective for male versus female supervisors, while a friendly-dependable style was rated as more effective for supervisors of either sex when employed with subordinates of the opposite sex. Ratings did not differ for male and female supervisors when they used threat and helping styles.

Threat was rated low and helping was rated high, regardless of the supervisor's sex. These results failed to uphold several commonly held stereotypes (aggressive male versus compassionate females). It should be noted that the similarity of ratings made by subjects of both sexes implies that males and females shape common perceptions concerning appropriate behavior for males and females in supervisory positions.

Bartol and Butterfield (1974) studied the influence of sex role stereotypes in the evaluation of leaders, among male and female business students. Two versions of a questionnaire contained four stories, each depicting a different leadership style: initiating structure, consideration, production emphasis, and tolerance for freedom. The names of the supervisors contained in the stories were ordered male, female, male, female in one version. In the other version, the managers' names were changed to indicate the opposite sex. The business students were asked eight evaluative questions dealing with the efficacy of the four leadership styles. Bartol and Butterfield did report some evidence of sex effects on evaluations of managerial behavior, although the effect varied depending on the leadership style employed. In general, female managers were scored more positively than male managers on the consideration style, although Initiating Structure behavior was valued more highly when male managers

exhibited such behavior. Tolerance of freedom behavior was also influenced by the sex variable, but the exact influence was unclear. Evaluations of production emphasis behavior were not affected by the sex variable, but, in general, sex of subject effects were found to be significant.

A related study was performed by Mayer and Bell (1975). They were concerned with the perception of competence in males and females. Groups of male and female judges (introductory psychology students) described male and female stimulus objects on 26 personality traits. It was felt that possible stereotypes that men and women have of each other would be revealed by the interrelations of the traits which made up the descriptions. Several important points were discussed by Mayer and Bell:

- (1) Raters of different sex produce different factor structures.
- (2) Different stimulus objects look different; that is, they are represented differently in factor structures.
- (3) Differentiation by the sexes is greater by males than females.
- (4) The notion of competence has several so-called personality traits with it, but what these are depends on the sex of the rater and ratee.
- (5) Males have more complex stereotypes of males and of females than females do.
- (6) The notion of competence is a major organizing theme for male and female raters (Mayer and Bell, 1975, pp. 248-249).

Two basic designs have been utilized to investigate the possibility of leadership-behavioral differences between the sexes. One design involves the use of different types of simulated exercises. Normally these include situations

which attempt to approximate real life settings (jury deliberations, discussion groups, business games, etc.). The other involves collection of data in actual leadership situations.

Vinacke and his associates have hypothesized that coalitional formation and behavior may be related to the sex roles of the participants. These experiments involved triads in a board game situation (Bond and Vinacke, 1961; Vinacke, 1959; Uesgi and Vinacke, 1963). Vinacke (1959) suggested that males are primarily concerned with winning, while females are more often concerned with working out equitable outcomes for all three participants. Bond and Vinacke (1961) felt that it would be interesting to combine the two sexes in the same systems of power differentiation (mixed sex triads). They concluded that males utilize an "exploitative" strategy in competitive situations, while females were found to adopt an "accommodative" strategy which is determined by a perceived weakness in a competitive context. Uesgi and Vinacke (1963) hypothesized that the reports of differentiated strategy might be caused by the use of male-oriented tasks. They developed a "feminine" game and used it in triad groups. Uesgi and Vinacke found that the "accommodation" tendency increased for both males and females in a feminine game. The strategy was found to be stronger for women.

Wahba and Lirtzman (1972) have formulated a coalition theory which predicts different outcomes than the data presented by Vinacke and his coworkers. They have a Coalition



Expected Utility Theory of Coalition Formation (CEU), which asserts that coalitions are formed to maximize their expected utility, and that coalitions with the highest expected utility are the most likely to be formed. CEU theory postulates that coalition behavior depends on the degree of uncertainty involved in the situation. The game situation data presented by Vinacke operated under the conditions of situational certainty. Lirtzman and Wahba (1972) conducted a study which offered support for the CEU theory particularly in conditions of uncertainty. They found that women adopt the same coalition strategy as men when placed in a competitive situation in which outcomes are subject to risk. Female coalition behavior seemed to be determined by situational demands rather than sex roles (Bond and Vinacke, 1961). Lirtzman and Wahba (1972) summarized the implications of these results for general coalitional behavior in organizations and with respect to the role of females in complex organizations:

. . . the organizational behavior of women is conditionally determined according to the degree of situational certainty present. If women are told the rules and rewarded for appropriate behavior, their coalition-formation decisions should be indistinguishable from those of men (Lirtzman and Wahba, 1972, p. 411).

Several other studies of leaderless situations (Strodbeck and Mann, 1956; Heilbrun, 1968) have supported the contention that there are differences between the behavior of males and females in group situations. Strodbeck and Mann considered the carry-over of interaction role

specializations from primary groups to a type of ad hoc problem solving group--jury deliberations. Their data suggested that men undertake acts directed at the solution of the task problem, while females tend to react to the contributions of others.

Short-term student discussion groups were used by Heilbrun (1968) to determine the importance of observer and target sex in judgments of sex-typed attributes. He found that both males and females rated their female peers as more expressive than instrumental, while neither sex described the behavior of male peers on the instrumental-expressive continuum.

Maier (1970) investigated the degree of dominance females express in discussion group situations. He hypothesized that females seem to be less inclined to be committed to a solution, but when they are committed, they seem to be as persistent and objective oriented as the males. The changing work procedure problem was employed for this experiment. This is a role playing task where a foreman attempts to get three workers to change their work habits. It seems that under the experimental conditions in this study, females appeared to have less confidence in their problem solving ability than males. In those situations where a solution was not prescribed, females tended to play a less dominant role than in situations where the solutions were supplied. Male discussion leaders were dominant in both

situations.

The results of the previous study suggested that sex effects in delegation should be investigated. Sashkin and Maier (1971) used the Changing Work Procedure (CWP) role-play case to study this question. This study revealed that when delegation is encouraged, the performance of female groups is essentially the same as male groups, but when delegation is restricted, the female leaders become much more cautious in their general interaction with the group. It seems that female leaders are less likely to act on their own, unless instructed to do so.

Several other studies have investigated the existence of sex differences in leadership behavior. Steiner and Rogers (1963) conducted a study on the alternative responses to dissonance. Male and female subjects were placed in an experimental setting where they found their judgments contradicted by an accomplice of the same sex. The subjects were allowed to resolve the dissonance in one of four ways: conforming to the contrary judgments of the associate, rejecting the associate as one who was less competent than he had been thought to be, under-recalling the disagreements, or, devaluating the importance of the topics about which the disagreements had occurred. Steiner and Rogers found that females made less use of rejection than did males, females were more inclined to tolerate conflicts, and the effect of anxiety upon an individual's choice of alternatives

(dissonance reducing responses) depended upon the sex of the individual.

Megargee (1969) investigated how societal sex role prescriptions might differentially influence the leadership behaviors by high dominance (DO) men and women. He performed two studies: one using a masculine industrial task and the other a sexually neutral clerical task. The two studies yielded virtually identical results. He found that when high DO men and women were paired with group members of the same sex, a high percentage of the men and women assumed the leadership role. However, when high DO men were paired with low DO women, and high DO women were paired with low DO men, there was a significant difference in the amount of leadership assumption manifested by female leaders. Megargee attributed these results to sex role conflict which inhibited the manifestation of DO.

Only a limited number of studies have investigated whether major behavioral differences between male and female leaders exist in non-simulated settings. The majority of the studies investigate this topic by determining the subordinates' perception of leadership behavior (Denmark and Diggory, 1966; Sadler, 1970; Roussell, 1974; Morsink, 1966; Day and Stogdill, 1972; Bartol and Wortman, 1975) while only one article compares male and female leaders (buyers) on actual performance data (Martin, 1972).

Martin (1972) studied 137 professional buyers for 21

department stores located in seven midwestern and seven southwestern states. He chose retail buyers because of the difficulty in locating women managers in sufficient numbers to make valid comparisons between male and female performance. Upper management of the stores involved reported that the buyers' job evaluations were determined primarily by their buying performance. Martin compared the performance difference between 77 female buyers and 60 male buyers on both self-evaluation and objective data. No significant differences were found in the pursuit of new buying resources, aggressiveness in asking for and obtaining product and service extras, or the percentage of inventory committed to "new trend" merchandise.

Research conducted by Denmark and Diggory (1966) attempted to determine whether women might be expected to show more authoritarian behavior than men. They selected the fraternity-sorority system and compared subordinate perception of actual leader behavior. They found that in general male leaders exhibit and find approval for more authoritarian behavior than do women.

Sadler (1970) asked 1589 persons to express a preference for one of four leadership styles: the tells, the sells, the consults, and the joins. Respondents were then asked to indicate to which of the four styles their own manager closely corresponded. The consultive leadership style was preferred by both male and female respondents. A higher

proportion of female respondents expressed a preference for the tells and joins styles. When respondents were asked which of the four leadership styles their own manager most closely approximated, male respondents perceived their managers as having sells and tells leadership styles while female respondents perceived their managers as having tells leadership styles.

Only four field studies have investigated the topic of sex differences in perception of leadership behavior: (Roussell, 1974; Morsink, 1966; Day and Stogdill, 1972; and Bartol and Wortman, 1975). Roussell (1974) examined the relationship of the sex of the department heads to climate as perceived by teachers. Each department sample was comprised of 6 teachers--3 females and 3 males. A total of 40 department heads--25 male and 15 female--were rated by their teacher subordinates. The hypothesis that there are no differences in the attitudes of male and female teachers toward male and female department heads, as measured by an organizational climate index, could not be appropriately tested because of the small size of some departments and the unequal representation of one of the sexes. Roussell found that males were perceived as higher on aloofness, production emphasis, and thrust (task-oriented behaviors) while females were perceived as being higher in consideration, but the differences were not significant.

Morsink (1966) found that female principles score

significantly higher than male principles, when described by both male and female staff members. These principles were described on six dimensions: representation, persuasiveness, production emphasis, predictive accuracy, integration of the group, and influence with superiors.

Day and Stogdill (1972) investigated the leader behavior of females by sampling from among civilian employees of the United States Armed Forces Logistics Command. The sex of the supervisors was the major main effect in this study. They found that male and female supervisors exhibited similar patterns of leader behavior and levels of effectiveness when described and evaluated by their immediate subordinates. Female supervisors were described somewhat higher than the males on the Consideration and Production Emphasis dimensions but there was no statistically significant difference between their means. This result indicated that on the average male and female supervisors were perceived as exhibiting similar patterns of leadership behavior. Day and Stogdill also correlated leader behavior subscales and effectiveness ratings with biographical variables and found that leader behavior was negatively related for male leaders, but positively related for female leaders. Male and female effectiveness ratings produced different outcomes in regard to advancement. Female supervisors' rate of advancement was found to be unrelated to effectiveness ratings.

Bartol and Wortman (1975) conducted a study which partially replicated as well as extended the Day and Stogdill study (1972). They included the sex of the subordinates as well as the sex of the supervisors as independent variables. Satisfaction in a hospital setting was the dependent variable in this study. The results of the sex of leader x sex of subordinate analysis of variance indicated significant main effects associated with the sex of the leader on only one of the subscales of the Leader Behavior Description Questionnaire, Form XII (Stogdill, 1963). Female supervisors were perceived as higher in Initiating Structure behavior than their male counterparts by subordinates of both sexes. There were significant sex of follower main effects on several leader behavior subscales (Demand Reconciliation, Persuasiveness, Initiating Structure, Consideration, and Predictive Accuracy). In all of the above cases, female subordinates were found to perceive their superiors, regardless of sex, as engaging in the particular leader behaviors to a greater extent than their male counterparts. No significant interaction between the 12 subscales was found. The results also indicated that there was a significantly greater degree of heterogeneity in subordinate perceptions of male leader behavior. On 3 of the 12 leader behavior subscales (Tolerance of Uncertainty, Role Assumptions, and Predictive Accuracy) female leaders were perceived more homogeneously by their subordinates.



The literature on sex differences in leadership seems to be in disarray. The opinion survey literature indicates that males rate their attitudes toward women executives in the mildly favorable to mildly unfavorable range (Bowman, Wortney, and Greyser, 1965; Gilmer, 1961; Gilmer, 1971; Bass, Krusell and Alexander, 1971; Rosen and Jerdee, 1974). This negative attitude might be attributable to behavioral differences between the sexes. The majority of simulated-situation studies have suggested that behavioral difference do exist (Strodtbeck and Mann, 1956; Bond and Vinacke, 1961; Vinacke, 1959; Uesgi and Vinacke, 1963; Heilbrum, 1968; Maier, 1970; Sashkin and Maier, 1971; Megargee, 1969). Only a few have found no behavioral differences (Bartol, 1974; Bartol, 1975; Bartol, 1973).

Of the several studies that have investigated sex differences in leadership behavior in actual leadership settings, the majority found no sex differences in perception of leadership behavior (Roussell, 1974; Day and Stogdill, 1972; Bartol and Wortman, 1975), only one study found perceptual differences (Morsink, 1966), and one other indicated no actual performance differences (Martin, 1972).

### CHAPTER III

#### SEX DIFFERENCES IN SATISFACTION WITH LEADERSHIP

Only a few studies have investigated the possibility of sex differences in satisfaction with leadership (Sauser, 1975; Hulin and Smith, 1964). Hulin and Smith (1964) conducted one of the earliest investigations in the area. They gathered mean satisfaction data from male and female workers in four different plants. The Job Description Index (Smith, Kendall, and Hulin, 1969) was used as the measure of job satisfaction which allowed them to measure overall job satisfaction as well as satisfaction with five facets of the job (work, pay, promotions, supervision, and coworkers). Hulin and Smith (1964) found that in general female workers were significantly less satisfied with their overall job than were their male counterparts. With regard to the facet satisfaction score dealing with supervision, it was found that female workers were less satisfied than their male counterparts. It should be noted that Hulin and Smith's study did not focus upon the effect of leadership on satisfaction.

The majority of the investigations analyzing the relationship between sex of the leader as an independent variable affecting the work satisfaction of subordinates have been simulations. Maier (1970) used a role-play

situation called a D.M.P. Changing Work Procedure (CWP) to investigate the effect of male versus female leaders on subordinate satisfaction. Subordinates were asked to indicate their satisfaction with their leader by using a seven point scale. The results of the study indicated no significant difference in the ratings received by male and female leaders.

Bartol (1974) used a simulated business game to investigate the stereotype of the dominant female leader who adversely affects the satisfaction of subordinates. Four types of teams competed in the business game: (1) male leader, male followers; (2) male leader, mixed (male and female) followers; (3) female leader, male followers; and (4) female leader, mixed followers. Bartol was forced to use the mixed follower approach because of the low proportion of female enrollees. She conducted a three-way analysis of variance which included two levels of leader (male and female), two levels of group composition (male followers and female followers, and two levels of leader need for dominance (high and low). The study results did not support the view that female leaders with a high need for dominance adversely affect follower satisfaction with leadership. In fact, male follower groups were found to be significantly more satisfied with high need for dominance female leaders than with low need for dominance leaders.

A similar study conducted by Bartol (1975) compared member satisfaction and group performance in groups led by

male and female leaders in a simulated business situation. She used the same type of four-team format discussed previously. Her findings failed to support the hypothesis that female leaders have a different effect than male leaders on subordinate's satisfaction with leadership. Satisfaction with leadership measures were found to be unrelated to either leader type or group composition. Evaluation of group performance based on a discounted rate of return earned formula showed no significant difference between male and female led groups.

The only field study that has attempted to determine the relationship between sex of leader, sex of subordinate and effects on subordinate satisfaction with leadership was conducted by Bartol and Wortman (1975). Data supported the hypothesis of no significant difference in the satisfaction levels of subordinates of male and female leaders. Bartol also found that the sex of the subordinates might be a better predictor than sex of superior in predicting satisfaction with leadership. Female subordinates indicated higher satisfaction levels than male subordinates on the satisfaction with leadership subscale, but the difference between the groups was nonsignificant.

Im summary, few studies have investigated the possibility of sex differences in satisfaction with leadership. All of the simulation studies investigating the effects of subordinate and leader sex on subordinate satisfaction with

leadership have supported the hypothesis of no significant difference (Maier, 1970; Bartol, 1974; Bartol, 1975). The only field study investigating this relationship (Bartol and Wortman, 1975) also found no significant differences. Hulin and Smith (1964) reported sex differences in satisfaction with leadership but their study did not focus on the effect of leadership on subordinate satisfaction with leadership.

## CHAPTER IV

### VARIABLES MODERATING THE RELATIONSHIP BETWEEN LEADER BEHAVIOR PREDICTORS AND ORGANIZATIONAL CRITERIA

Fleishman (1973) has pointed out that at one time many researchers felt that a high-Consideration high-Initiating Structure combination was related to maximal satisfaction and performance. This claim has proved to be an oversimplification. Some studies have shown that Consideration may vary negatively with certain managerial proficiency ratings (Harris, 1952; Fleishman, Harris, and Burt, 1955), and Structure has also been found to correlate negatively with subordinate satisfaction, grievances, and turnover (Fleishman and Harris, 1962). In addition to these dysfunctional results, researchers have discovered that preferences for and attitudes toward Consideration and Initiating Structure sometimes vary as a function of the individual and the research setting (Hunt and Liebscher, 1973). These inconsistencies have caused some researchers to investigate the existence of variables which may moderate the relationship between leader behavior predictors (Consideration and Initiating Structure) and organizational performance criteria.

In a recent publication, Kerr et al. (1974) attempted to show how the Consideration-Initiating Structure literature

could be used to explain the principles underlying a contingency theory of leadership. They did this by identifying those situational elements which have been found to influence the relationship between leader behavior predictors and organizational performance criteria. Nine moderator variables were reviewed: (1) Pressure; (2) Task-related Satisfaction; (3) Subordinate Need for Information; (4) Job Level; (5) Subordinate Expectations; (6) Congruence of Leadership Styles; (7) Subordinate's Organizational Independence; (8) Leader Upward Influence; and (9) Miscellaneous Factors (size of the work group, psychological characteristics of the subordinates). These variables were then grouped into three situational categories: (1) Subordinate Considerations; (2) Supervisor Considerations; and (3) Task Considerations. Contingency theorists feel that situational categories, leader behavior predictors, and organizational criteria must be considered in any leadership theory.

Although all of the variables discussed by Kerr et al. (1974) are of interest, only the literature dealing with pressure and task-related satisfaction is somewhat related to the present investigation. Pressure can take the form of time urgency, task demands, interunit stress, or physical danger. Halpin (1954) analyzed the relationship between the crew's perception of the leadership behavior of the airplane commander and (1) performance ratings of his combat performance made by his superiors and (2) an index of satisfaction

made by the crew of their commander. He found that Initiating Structure was negatively related to crew members' satisfaction in training, but was positively related to subordinate satisfaction in combat.

A similar study conducted by Holloman (1967) investigated variations in perceptions which superiors and subordinates have of the leadership role of first-line military and civilian supervisor in a noncombat Air Force organization. He used the Supervisory Behavior Description Questionnaire (SBDQ) to gather quantitative descriptions of subordinate and superior perceptions of leadership behavior. Holloman found that with respect to structure, superiors and subordinates had higher expectations of their military supervisor than their civilian supervisor. He also obtained results showing that there were no significant differences between military and civilian superiors in their perceptions of military and civilian supervisors. Subordinates perceived the military supervisor to be higher in consideration than civilian supervisors. So Holloman's study showed that the perceptions which supervisors had of military and civilian supervisors were not completely shared by subordinates.

Oaklander and Fleishman (1964) designed a study to establish the relationship between leadership patterns (as measured by the Leader Opinion Questionnaire) and organizational stress and effectiveness in a hospital setting. The authors developed measures of intradepartment and



interdepartment stress. Oaklander and Fleishman hypothesized that higher consideration by department heads was related to lower intradepartmental stress, while higher structure was related to lower interdepartmental stress. They felt that department heads who ranked high on both consideration and structure would also rank high on the criterion measures. In general, their results supported the hypothesis. There were some situational differences, however, in that high consideration and high structure were related to low intraunit stress in governmental hospitals. In voluntary hospitals, high consideration also was related to low intraunit stress but the results relating to the structure dimension were more situationally determined. In other words, high structure was found to reduce interunit stress in voluntary hospitals, but the relation to intraunit stress was not that clear. The authors attempted to explain these results by focussing on the possible sources of threat. They suggested that when a threat was seen as stemming from external sources, such as interunit stress, Initiating Structure might be perceived as a type of group protective mechanism. On the other hand, when a threat was seen as stemming from internal sources, such as intraunit stress, Consideration might be viewed by the group as being the most protective device.

The three studies reviewed above were all affected by pressure clearly caused by some external source. Because

both the situation and the types of pressure exerted varied in each of the three studies, the conflicting results might be attributed to situational differences.

The possibility of using expectancy theory concepts as explanations of the effects of leader behavior on subordinate satisfaction, motivation, and performance was first introduced by House in his path-goal theory of leader effectiveness (House, Filley, and Kerr, 1971; House, 1971). His basic premise is that work demands and supervisory-subordinate interaction potential have a tendency to influence perceptions of leadership and the relationship between leadership and satisfaction. These work demands are characterized by House as having either extrinsic or intrinsic qualities (task-related satisfaction). House argues that when jobs are particularly low in satisfaction, increased Consideration on the part of the leader may be necessary in order to compensate for the lack of intrinsic satisfaction. He also argues that when task performance is ambiguous, Structure may be necessary to reduce this ambiguity. When work is defined as not being intrinsically satisfying, House hypothesizes that Structure may be negatively related to satisfaction or not related at all because workers may interpret this leadership style as a form of external control.

Hunt and Liebscher (1973) conducted a study that tended to support House's predictions. Their study investigated the relationship between five leadership dimensions and seven

satisfaction criteria in two state highway departments. Because one department dealt with construction work demands and the other dealt with design duties, the authors felt that the departments were situationally different. The authors found that the mean Work satisfaction score was higher in the construction department than in the design. They felt that the higher consideration preference in the design department was the result of low satisfaction scores. The duties of the construction department were defined by the authors as being very ambiguous. Thus, it was interesting to find a positive relationship between Structure and satisfaction in the construction department. This result supported House's statement that Structure was necessary if a reduction in role ambiguity was desired.

These two variables, pressure and task-related satisfaction, were not specifically investigated in the present study. Their literature was reviewed so that the reader could be introduced to the contingency theorists' conceptualization of the term; moderating influences. An extension of this approach was used in the present investigation and will be described in the statement of the problem section.

## CHAPTER V

### STATEMENT OF THE PROBLEM

#### Study Objectives

The present study focused on the effects of subordinate and leader sex on subordinate perception of leadership and subordinate satisfaction with leadership. Five issues are involved: (1) the extent leader behavior as perceived by male and female subordinates differs among male and female leaders; (2) the extent sex differences in the perception of leadership may be attributed to several variables which covary with sex; (3) the extent satisfaction with supervision as reported by male and female subordinates differs among male and female leaders; (4) the extent sex differences in subordinate satisfaction with supervision may be attributed to several variables which covary with sex; and (5) the extent subordinate perceptions of supervisory behavior relate to satisfaction with supervision as reported by male and female subordinates.

In the psychological literature, four studies have investigated whether sex differences in the perception of leadership exist (Roussell, 1974; Day and Stogdill, 1972; Morsink, 1966; Bartol and Wortman, 1975). Several studies have indicated that different situations should be used in addressing the question of perceptual differences. This

approach was specifically suggested by Bartol and Wortman (1975) because their subscale loadings differed from those disclosed by Day and Stogdill (1972). Bartol (1975) and others have suggested that in order to comprehend the dynamics of the leadership situation, more field investigations should be conducted. The present study provided such data because of the military setting in which it was undertaken.

Few studies have investigated the possibility of sex differences in satisfaction with leadership. All of the simulation studies investigating the effects of subordinate and leader sex in subordinate satisfaction with leadership have supported the hypothesis of no significant difference in reported satisfaction (Maier, 1970; Bartol, 1974; Bartol, 1975). The only field study investigating this relationship also found no differences (Bartol and Wortman, 1975).

Based upon a review of the literature, no previous covariate analysis has been undertaken in the following sex difference areas: (1) perception of leadership of different sexed leaders; and (2) satisfaction with leadership of different sexed leaders. Day and Stogdill (1972) investigated the relationship between certain biographical variables (grade school level, age, education, training progress, number of children, age of youngest child, total service, time in position) and leader behavior perceptions and leader effectiveness ratings. Although they looked at the relationship between these variables, they never

attempted to statistically control for their possible contaminating influences.

The present study attempted to determine the extent sex differences in the perception of leadership and sex differences in subordinate satisfaction with supervision may be attributed to several variables which covary with sex. Six demographic characteristics served as covariates in the above sex difference investigations: (1) age; (2) race; (3) marital status; (4) number of dependents; (5) education; and (6) Army classification pattern scores (intelligence).

Since no previous covariate analysis has been undertaken in these two sex difference areas, the rationale for the selection of these variables needed to be based on other areas of investigation. Both the satisfaction and rating areas deal with perceptions. For example, the Job Description Index (Smith, Kendall, and Hulin, 1969) measures an individual's perceptions of his/her satisfaction with five segments of the job situation: pay, opportunities for promotion, supervision, and coworkers. Judgmental criteria, such as ratings, also rely on the rater's perceptions. Here the ratee's strengths and weaknesses in various aspects of job performance are evaluated by the rater.

Examination of the types of variables investigated in both the satisfaction and rating areas provided further rationale for the selection of the covariates previously specified. Several studies have determined that level of

education has some relationship to job satisfaction (Schwartz, Ronan, and Day, 1973; Herzberg, Mausner, Peterson, and Capwell, 1957; Quinn, Staines, and McCullough, 1974). Other studies have reported a direct relationship between age and satisfaction (Hulin and Smith, 1965; McDonald and Gunderson, 1974; Schwartz, Ronan, and Day, 1973). Hulin and Smith (1965) found tenure in present position to be negatively related to job satisfaction.

Various rater characteristics have been shown to play a role in performance appraisal obtained by rating. Extensive research has taken place on race as a potential determinant of ratings. Dejung and Kaplan (1961) found that black raters gave higher ratings for their race than white ratees. Hammer, Kim, Baird and Bigoness (1974) utilized an objective measure to determine the variables which might influence assessments of human behavior. They found that black male ratees were rated about average whether their actual performance was high or low. Richards and Jaffee (1972) found that: (1) performance ratings of black supervisors were poorer than the performance ratings of white supervisors; (2) subordinates characterized as negatively biased on race gave poorer ratings to black supervisors than more liberal subordinates; (3) subordinates supervised by black leaders were found to behave differently

than subordinates supervised by white leaders.

The education and intelligence variables have also been utilized in the investigation of ratings. Conrad (1933) found that ratings were more reliable when raters have educational and professional backgrounds similar to the person being rated. Stockford and Bissell (1949) discovered that the influence of length of acquaintance on ratings were moderated by the IQ of the rater. They concluded that those raters of higher IQ gained more from training, reducing the effect of length of acquaintance, than those with lower intelligence.

Kerr et al. (1974) explained the principles underlying a contingency theory of leadership with the point that researchers should investigate the relationship between leader behavior predictors, situational categories, and organizational criteria. They identified the situational elements (moderating variables) which have been found to be influence the relationship between leader behavior predictors and organizational criteria. Surprisingly, they failed to discuss the possible moderating influence sex of superior or subordinate might have on the above relationship. If the contingency theory of leadership is to become a viable predictive tool, superior and subordinate characteristics, such as sex, must be considered.



viable predictive tool, superior and subordinate characteristics, such as sex, must be considered.

Bartol and Wortman (1975) conducted the only study which has investigated whether sex differences could affect the pattern of relationships between perceptions of leader behavior and subordinate satisfaction with supervision. They correlated separately, for each of four leader-subordinate combinations, perception of leadership and satisfaction with supervision subscales. For male subordinates of male leaders, there were significant positive correlations between satisfaction with supervision and tolerance for uncertainty, tolerance for freedom and integration. Male subordinates of female superiors also had significant positive correlations between satisfaction with supervision and tolerance for freedom. For female subordinates of female leaders, the only positive significant correlation was between satisfaction with supervision and production emphasis using the Leader Behavior Description Questionnaire, Form XII.

The present study investigated the relationship between perceived differences in leadership and satisfaction with supervision of different sexed leaders. A covariance analysis was used to investigate this relationship with the sex of the recruit as a moderating variable.

Probably the biggest difference between the studies that have been reviewed in this thesis and the present

investigation is the fact that this is a repeated measures study. The other sex difference studies had each subordinate rate one superior. Because the present study was done in a military training setting, each recruit rated each of his/her drill sergeants. These ratings were transformed into difference scores which were then used in the various analyses.

### Testable Hypotheses

Three hypotheses have been formulated for the present study. The following statements should be interpreted as experimental rather than statistical hypotheses.

- (1) The first hypothesis asserts that there are differences in the perception of leadership of different-sexed leaders as a function of the sex of the recruit. This will be analyzed with a fixed effects, non-orthogonal, one-way multivariate covariance design. Sex of recruit is the main effect in this analysis, and the dependent variable will be a two dimensional random vector of difference scores derived from the Leader Behavior Description Questionnaire (LBDQ) measures. Consideration and structure scores will be used to derive the scores that will be used in the analysis (this procedure will be described in the methods section of the thesis). The vector of two scores obtained from the LBDQ will be subjected to covariance adjustment on to-be specified demographic variables.

- (2) The second hypothesis asserts that there are differences in the satisfaction with leadership of different-sexed leaders as a function of the sex of the recruit. This will be analyzed in a one-way analysis of variance design. Sex of recruit is the main effect in this analysis, and the dependent variable will be a difference score based on the Job Description Index (JDI) (this procedure will be described in the methods section of the thesis). The same type of covariance procedure indicated in hypothesis one will be conducted.
- (3) The third hypothesis asserts that the relationship between perceived differences in leadership and expressed satisfaction with leadership of different-sexed leaders will vary as a function of the sex of the recruit. This relationship will be analyzed by using an analysis of covariance procedure. The criterion variable in this analysis will be the derived scores obtained from the JDI, while the predictors used will be the two dimensional random vector of LBDQ derived scores mentioned above.

Each hypothesis was tested by examining the statistical hypothesis of no difference against the two-sided alternative.

## CHAPTER VI

### METHOD OF INVESTIGATION

#### Experimental Subjects

Subjects for this study included male and female recruits (subordinates) taking part in the Basic Initial Entry Training program in Fort Jackson, South Carolina. This program was established to evaluate the current program for the expanded utilization of women in the Army. Each company platoon was led by a cadre of male and female drill sergeants. A total of 32 platoons were involved in the study. Twenty-six platoons had two male and one female drill sergeants while six platoons had one male and one female drill sergeants. Each cadre was balanced along certain demographic characteristics to insure that the trainees were being led by relatively similar superiors. Male cadre members were matched according to age, combat versus non-combat arms, minority, and rank. All female drill sergeants were compared in a similar fashion. Since the female drill sergeant position was such a recent phenomenon, no between sex group matching was undertaken.

A total of nine hundred and twenty-one trainees served as subjects for this experiment. The sample was comprised of four hundred and sixty seven male trainees and four hundred and fifty four female trainees. Each

platoon consisted of all male or all female trainees. For example, the sixth battalion consisted of two female companies (A and D) and two male companies (B and C) while the seventh battalion consisted of two female companies (B and E) and two male companies (C and D).

It should be noted that the Army did not assign trainees to platoons on a systematic basis. Thus, the assignment of the trainees to platoons can be viewed as approximating a random procedure.

Although 1500 trainees were actually surveyed, 579 questionnaires (39%) were incorrectly and/or incompletely filled out. These unusable questionnaires were discarded, yielding a total usable sample of 921 questionnaires.

#### Description of the Survey Questionnaire

The questionnaire used by the investigator to collect the information necessary to test the hypotheses described in Chapter IV is presented in Appendix A. This questionnaire consisted of three parts. Each recruit completed three forms and was asked to evaluate each of his/her leaders on an individual basis. The forms had two sections. The first section consisted of LBDQ items while the second section dealt with JDI Supervision subscale items. The three forms were given to the recruits with the instructions, not the items, varying on each form. One form asked the recruits to rate the frequency with which one of your male drill sergeants did the following; the second form asked

how frequently your other male drill sergeant did the following; and the third and final form asked the recruits to rate how frequently your female drill sergeant did the following. This approach was chosen to provide the recruits with a perceptual set and avoid a possible confounding due to averaging. In addition, this format was chosen because the author was unable to have each recruit rate the male drill sergeants by name.

#### Leader Behavior Description Questionnaire

Items 1-40 on each form were LBDQ items. Contained within these 40 items were fifteen items scored for consideration, fifteen scored for structure, and ten which were not scored. A Likert-type scoring system was used and total scores may range from 0 to 60 on each dimension. (See Appendix B for a description of the psychometric characteristics of the LBDQ.) (Stogdill, 1963).

#### Job Description Index

Items 41-58 on each form were JDI items dealing with satisfaction with supervision. This JDI subscale listed 18 adjectives. Recruits were asked to choose "yes," "no," or "undecided" with respect to the accuracy of the adjectives in describing their satisfaction with supervision. Responses were scored with an empirically derived key that yields scores that may range from 0 to 54. (Hulin and Smith, 1964).

The satisfaction with supervision scale of the Job Description Index (Smith, Kendall, and Hulin, 1969) was

also administered to the recruits. Rather than have the recruits express their satisfaction with general supervision, the present questionnaire focused on the recruits satisfaction with a particular leader.

This questionnaire has been described as

. . . an adjective check list on which each worker is asked to describe several aspects of his job by means of a "yes," "?," or "no" response to each of the adjectives. The aspect of the job which the workers describe are their work, their pay, their opportunities for promotion, their supervision, and the people with whom they work (Hulin and Smith, 1964, p. 89).

The Job Description Index has been found to have positive psychometric characteristics. It has survived the tests of convergent and divergent validities, as well as internal consistency and response set biases (Quinn and Kahn, 1967). Smith et al. (1969) have also provided evidence attesting to the validity of the Job Description Index.

#### Independent and Dependent Variables

In effect there are two independent variables in each of the analyses planned for this study, namely, sex of recruit and sex of leader (drill sergeant). Since the intent of this study is to examine in what way, if any, recruits of different sex respond to contemporaneous co-leaders of unlike sex, a difference score approach was used. Since all differences are taken in the same direction (Female Leader minus Male) the sign of the difference indicated which leader was viewed more favorably, and the absolute magnitude of the difference

indicated the extent to which the co-leaders were responded to as different. Therefore, all statistical analyses to be reported are one-way designs with sex of recruit as the independent variable, one or more difference scores as dependent variable, and for hypothesis one and two with six demographic variables as covariates.

Three difference scores are of interest: (1) The difference between the female leader's LBDQ Consideration score and that of the male leader, (2) similarly for the LBDQ Initiating Structure score, and (3) again for the JDI Satisfaction with Supervision score. The first and second difference scores were the dependent variables in the examination of the first hypothesis, the third score was dependent variable for the second hypothesis, and for the third hypothesis the third difference score was used as criterion and the first and second scores as predictors.

It will be recalled that 26 platoons had two male leaders while 6 platoons had one male leader. For those platoons having two male leaders, a random vector of difference scores was constructed based on the first or second male drill sergeant scores.

Since the author was unable to designate which male drill sergeant was to be rated first by the recruits having two male drill sergeants, it was assumed that the self-selection made by the recruits was a non-systematic process. In order to use all of the available data, the author had



to devise a method of grouping those platoons having one rather than two male drill sergeants. The author selected a random male drill sergeant for those platoons having two male drill sergeants and used this score in all of the difference score computations. Those platoons that had one male drill sergeant had their male drill sergeant score designated as the random male for computational purposes. Therefore, the author's selection of a random male score may also be considered a random process.

#### Procedure

Recruits completed the questionnaires at the end of their twelve week training program. The questionnaires used in the present study were administered by trained testing representatives of the United States Army. The author's questionnaires were attached to a battery of attitudinal instruments which the trainees were required to fill out at the end of their training program. Prior to distributing the questionnaires, the representatives described the nature and the purpose of the survey. They also assured each trainee that his/her anonymity would be preserved and that the results obtained from the questionnaires would only be used for research purposes.

The questionnaires were eventually turned over to the investigator, who scored the questionnaires and prepared them for subsequent analysis. Scores for the leadership perception indexes measures by the LBDQ were obtained by a

method described by Halpin (1957). Satisfaction with supervision scores measured by the JDI were obtained using the method described by Smith, Kendall, and Hulin (1969). (See Figure 1 for the schema of the experimental design).

<u>Condition</u>	<u>Independent Variable</u>	<u>Controlled (Planned Covariates)</u>	<u>Dependent Variables</u>
One (MANOVA)	Sex of Recruit	(1) age (2) race (3) no. of dependents (4) marital status (5) education (6) intelligence	(1) FC-MRC <sup>1</sup> (2) FS-MRS <sup>2</sup>
Two (ANOVA)	Sex of Recruit	(1) age (2) race (3) no. of dependents (4) marital status (5) education (6) intelligence	(1) FST-MRST <sup>3</sup>
Three (ANCOVA)	Sex of Recruit	(1) FC - MRC (2) FS - MRS	(1) FST-MRST

<sup>1</sup>Female drill sergeant consideration score--random male drill sergeant consideration score

<sup>2</sup>Female drill sergeant initiating structure score--random male drill sergeant initiating structure score

<sup>3</sup>Female drill sergeant satisfaction with supervision score--random male drill sergeant satisfaction with supervision score.

Figure 1. Schema of the Experimental Design.

## CHAPTER VII

### ANALYTICAL RESULTS

#### Method of Testing

An alpha level of .05 was chosen as the criterion of statistical significance for all of the hypotheses examined in this study. However, in certain instances (e.g., univariate tests following multivariate analyses, tests of individual correlation coefficients in an intercorrelation matrix) tests of hypotheses can not be considered as being independent. In order to retain a nominal five percent alpha level and reduce the possibility of Type I error, alpha was partitioned over the family of such tests. In the case of hypothesis I, the multivariate test was evaluated by comparison with .05 as the criterion of statistical significance and the two subsequent univariate  $F$  tests (performed on condition of a significant multivariate result) were evaluated by comparison with .025 as the criterion (e.g.,  $.05/2$ ). A similar procedure, recommended by Larzalere and Mulaik (1977), was performed in the tests involving interpretation of individual correlations in intercorrelation matrixes. All of the tests involving the Larzalere-Mulaik procedure were evaluated by comparison with .05 as the criterion of statistical significance and the hypothesis was chosen as the proper unit for error rate.

### Examination of Covariates

Six covariates were originally selected for use in the present analysis: (1) age; (2) race; (3) marital status; (4) number of dependents; (5) intelligence; and (6) number of years of education. Initial examination of the covariates resulted in the elimination of marital status and number of dependents because each lacked variability. The remaining covariates (age, race, intelligence, number of dependents) were then correlated with the three dependent variables used in hypothesis one and two (Table 1). Significance of the correlation coefficients was tested using a modification of the Bonferroni procedure suggested by Larzelere and Mulaik (1977). Their multistage Bonferroni procedure controls the probability of making at least one Type I error in a family of tests or in any subset of that family, while providing more power than the traditional, one-stage Bonferroni procedure. All of the correlations contained in Table were found to be nonsignificant. Since covariate analysis is only appropriate as a method of statistical control if a significant correlation exists between the covariates and the dependent variables, the covariate analyses that had been planned for the investigation of the first and second hypotheses were not performed.

In retrospect, the nonsignificant relationships disclosed by the multi-stage Bonferroni procedure should have been anticipated. Since Army recruits are highly homogeneous on many demographic characteristics, restriction of

Table 1. Intercorrelation of Demographic Variables and Dependent Variables.

Covariates	Dependent Variables		
	FC-MRC <sup>1</sup>	FS-MRS <sup>2</sup>	FSAT-MRSAT <sup>3</sup>
Age	-.06	.01	-.06
Race	.06	-.06	-.03
Education in years	.01	.06	.03
Intelligence	.04	.10	.06

<sup>1</sup>Female drill sergeant consideration score--random male drill sergeant consideration score

<sup>2</sup>Female drill sergeant initiating structure score--random male drill sergeant initiating structure score

<sup>3</sup>Female drill sergeant satisfaction with supervision score--random male drill sergeant satisfaction with supervision score.

range could be expected to reduce the variance associated with such variables. In turn, the reduction in the range of a variable may lead to a reduction in observed correlations with other variables.

### Test of Hypotheses

#### Hypothesis I:

Hypothesis I dealt with differences in the perception of leadership of different-sexed leaders as a function of the sex of the recruit. Sex of recruit was the main effect in this analysis while the dependent variable was a two dimensional random vector of difference scores comprised of LBDQ measures (Consideration and Initiating Structure).

The descriptive statistics related to Hypothesis I are reported in Table 2 and Table 3. Table 2 contains the means and standard deviations for each dependent variable by platoon and also includes the grand means. Means, standard deviations and grand means are reported by recruit sex group in Table 3.

A  $F_{\max}$  test of homogeneity of variance (Kirk, 1968), was conducted for each of the dependent variables analyzed in Hypothesis I. Variances were estimated for each of the thirty-two platoons involved in this study, and the hypothesis was rejected for each of the variables ( $p < .01$ ). A Guilliksen-Wilkes procedure (Guilliksen, Wilkes, 1955) was also used to estimate the variances associated with each of the recruit sex groups and was found to be significant ( $p < .01$ ).

The correlation, over the pooled sample, of the Consideration and Initiating Structure criteria was found to be

Table 2. Platoon, Means, Standard Deviations, and Cell Sizes on the Consideration Difference Score (FC-MRC)

Group	Count	Mean	Std. Dev.
GRP 1	33	7.848	10.122
GRP 2	35	-5.314	8.944
GRP 3	23	1.783	8.738
GRP 4	29	-4.586	8.424
GRP 5	20	-7.350	13.268
GRP 6	34	.118	8.797
GRP 7	36	2.250	8.739
GRP 8	32	-4.844	8.493
GRP 9	32	3.438	10.848
GRP 10	27	3.852	20.581
GRP 11	22	13.091	11.174
GRP 12	30	-9.000	12.451
GRP 13	29	1.931	7.290
GRP 14	27	-2.704	7.347
GRP 15	32	-7.688	7.347
GRP 16	26	1.115	6.820
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GRP 17	29	2.759	11.067
GRP 18	31	-3.774	12.032
GRP 19	35	-.429	13.971
GRP 20	25	-13.080	11.038
GRP 21	21	9.190	9.196
GRP 22	24	.625	7.318
GRP 23	34	-20.147	12.493
GRP 24	30	1.567	6.971
GRP 25	29	14.310	9.566
GRP 26	30	7.900	7.730
GRP 27	35	4.400	10.120
GRP 28	30	-5.833	13.020
GRP 29	27	-9.407	11.550
GRP 30	24	-9.375	12.090
GRP 31	28	-8.821	10.988
GRP 32	22	12.318	12.530
<hr/>			
Total Grand Mean	921	-.412	13.081



Table 2. (Continued)  
 Platoon Means, Standard Deviations, and Cell Sizes  
 on the Initiating Structure Difference Score (FS-MRS).

Group	Count	Mean	Std. Dev.
GRP 1	33	.879	10.264
GRP 2	35	-2.343	6.868
GRP 3	23	-3.435	5.358
GRP 4	29	-7.414	8.352
GRP 5	20	-5.450	9.923
GRP 6	34	-7.500	11.889
GRP 7	36	-2.750	6.166
GRP 8	32	-3.813	5.861
GRP 9	32	-.250	8.116
GRP 10	27	-2.407	16.324
GRP 11	22	-2.409	8.705
GRP 12	30	-6.933	10.329
GRP 13	29	-.724	7.146
GRP 14	27	-3.444	7.234
GRP 15	32	.688	6.902
GRP 16	26	-1.769	5.989
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GRP 17	29	-.379	4.960
GRP 18	31	7.194	7.157
GRP 19	35	-2.657	16.367
GRP 20	25	5.720	5.054
GRP 21	21	2.762	4.381
GRP 22	24	.708	5.894
GRP 23	34	7.206	12.047
GRP 24	30	.867	6.495
GRP 25	29	11.483	9.171
GRP 26	30	6.200	7.517
GRP 27	35	-1.543	11.640
GRP 28	30	-4.533	9.580
GRP 29	27	-11.000	9.584
GRP 30	24	-.125	8.926
GRP 31	28	2.250	5.522
GRP 32	22	-2.273	6.017
<hr/>			
Total Grand Mean	921	-.819	10.012

Table 3 . Recruit Sex Group Means in the Consideration (FC-MRC) and Initiating Structure (FS-MRS) Difference Scores.

	Consideration	Initiating Structure
Male N = 467	.54	-3.01
Female N = 454	-1.39	1.43
Grand Mean N = 921	-.41	-.82

.41. An examination of the critical values tables by Guilford (1956) indicate that this correlation is significant ( $p < .01$ ). Therefore, the dependent variables were assumed not to be independent and an overall multivariate test was deemed appropriate.

Before the Hypothesis I results are reported, a discussion of the tests involved in the analysis is necessary, if the results are to be interpreted appropriately. The use of difference scores in an ANOVA experimental design permits, and in this study may require hypothesis testing on the grand mean of the experiment. These difference scores correspond to the linear contrast among the raw scores which is calculated in the more customary ANOVA in order to test for differences between the levels of the independent variable related to the repeated measure scores. For example, in Hypothesis I the test of the difference score grand mean of the experiment is a test of the hypothesis that male and female leaders are perceived as equivalent on the LBDQ leadership dimensions, ignoring the sex of the recruit. In other words, it is a test of the main effect, sex of leader. The subsequent test of equivalence between the male and female groups of recruits, using difference scores, can not be interpreted as a simple main effects test. Since it examines a contrast between the recruit sexes on a variate which is itself a contrast between the leader sexes, it is a test of interaction. It should be noted that this difference score rationale will also be applied to the results of Hypotheses II and III.

To evaluate Hypothesis I requires first a multivariate procedure applied to the two-dimensional dependent vector comprised of LBDQ elements. The multivariate procedure provides for two tests of hypothesis as indicated above. The test of the grand mean (here a bivariate centroid) is significant ( $p < .04$ ) indicating that regardless of the sex of the recruits male and female leaders are perceived as being different. However, this result is rendered less important because of the results associated with the second test of hypothesis. The test of interaction between sex of recruit and sex of leader is significant ( $p \leq .001$ ). Both the test of the grand mean and the test of interaction between sex of recruit and sex of leader can be examined in Figure 2 in which the male recruit, female recruit, and total experiment centroids are plotted using the data from Table 3. The grand mean test indicates that the total experiment centroid in that figure is displaced from the origin of the axes far enough to have probability of occurrence equal to or less than .04, if the true value lies at the origin. The test of interaction indicates that the two recruit centroids are too distant from the experimental centroid to be considered chance deviations from it. This latter test can be interpreted by referring to the results contained in Table 3, keeping in mind that a negative difference score means the male leader scored more favorably on the dimension than did the female leader. Analysis of the interaction indicates that recruits perceived leaders of the same sex

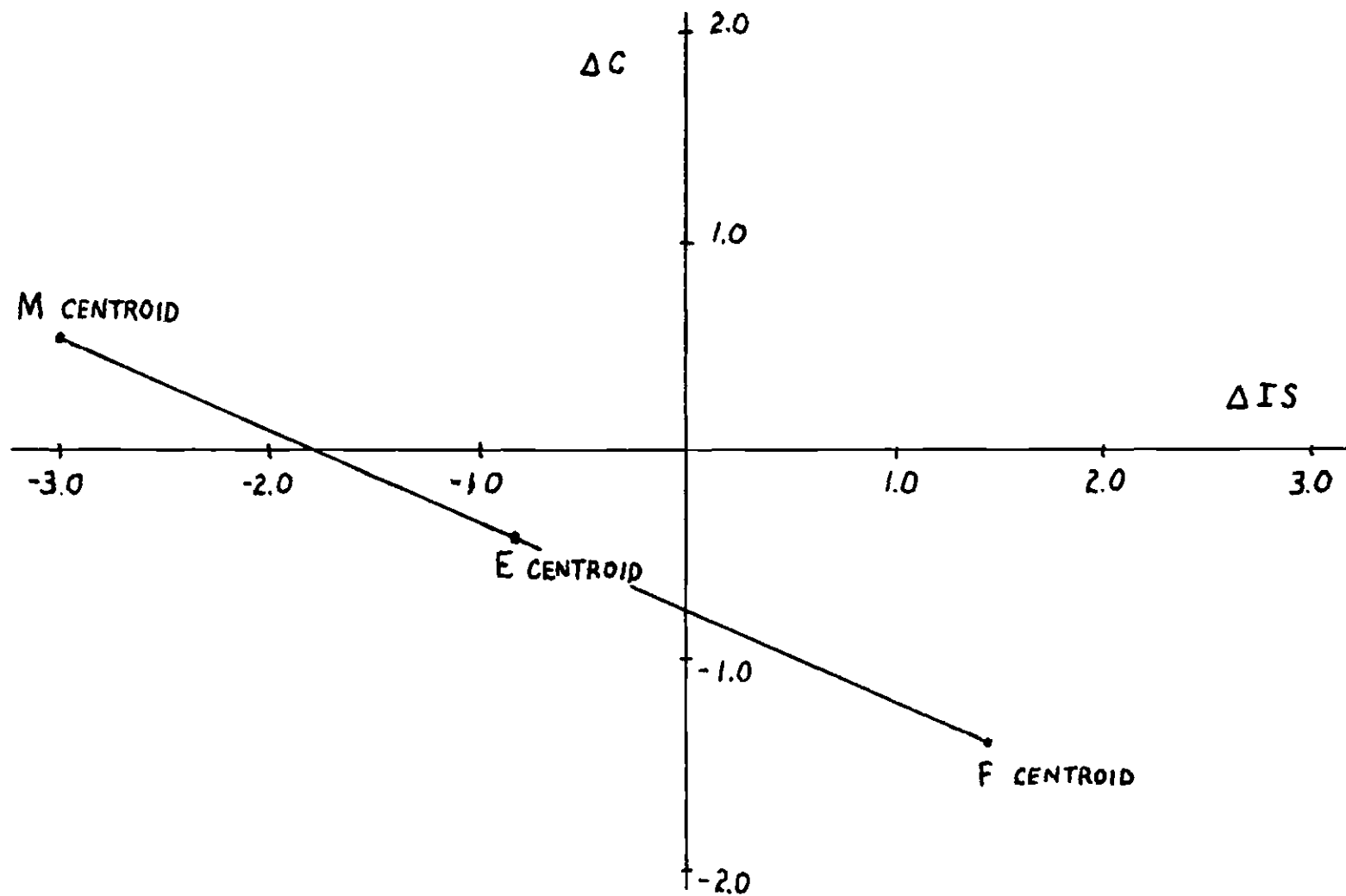


Figure 2. Male Recruit, Female Recruit and Total Experiment Centroids.

as initiating more structure than the other leader, and perceived leaders of the other sex as more considerate. The multiple correlation between the dependent vector and the sex of the recruit was .28, yielding a coefficient of determination of .08. This implies a relatively weak relationship between the variables.

The univariate analyses of the two dependent measures support the interpretation based on the multivariate analysis in that each test of interaction is significant ( $p < .024$  for Consideration,  $p < .001$  for Initiating Structure). This indicates that there was a significant difference in the way different-sexed recruits perceived different-sexed leaders on both dimensions of the LBDQ. Only the grand mean test on the Structure variable was found to be significant as a univariate test ( $p < .011$ ). Although examination of the grand means discloses that male leaders were perceived by all recruits as being more Considerate (-.41) and Structured (-.81) than their female counterparts.

In summary, Hypothesis I, which states that different-sexed recruits would perceive leadership characteristics of different-sexed leaders differentially, is supported.

#### Hypothesis II:

Hypothesis II investigated whether differences in the satisfaction with leadership of different-sexed leaders is a function of the sex of the recruit. This was analyzed in a one-way analysis of variance design with sex of recruit

as the main effect and a difference score based on the JDI as the dependent variable (Satisfaction with Supervision).

The descriptive statistics related to Hypothesis II are contained in Table 4. This table presents the means, standard deviations, and grand mean for the two subgroups (male and female recruits) and the 32 platoons on the Satisfaction with Supervision dependent variable.

A  $F_{\max}$  test of homogeneity of variance (Kirk, 1968), was also conducted for the dependent variable analyzed in conjunction with Hypothesis II. The hypothesis of homogeneity of variance was not accepted ( $p < .01$ ), and thus the platoons differed with respect to the variances associated with this dependent variable. The Guilliksen-Wilkes procedure (Guilliken, Wilkes, 1955) was used to evaluate the variances associated with each recruit sex group. The groups were found to be homogeneous ( $p < .05$ ) with respect to the dependent variable analyzed in this hypothesis.

Although Hypothesis II involves the analysis of a uni-dimensional dependent vector comprised of a JDI element, the same tests of hypothesis that were used on the previous multivariate hypothesis (Hypothesis I) are also used in this analysis. The test of the grand mean (here a univariate centroid) is significant ( $p < .017$ ) suggesting that all recruits reported differences in their satisfacton with their male and female leaders, favoring the female leader. The test of interaction was not significant ( $p < .629$ ) indicating that there was no difference in the way different-sexed

Table 4. Platoon and Recruit Sex Group Means, Standard Deviations, and Cell Sizes on the Satisfaction with Supervision Difference Score (FST-MRST).

Group	Count	Mean	Std. Dev.
GRP 1	33	6.848	10.414
GRP 2	35	-2.486	5.463
GRP 3	23	2.348	7.726
GRP 4	29	-5.621	8.724
GRP 5	20	-9.100	9.188
GRP 6	34	1.412	6.542
GRP 7	36	3.028	7.237
GRP 8	32	-1.031	6.940
GRP 9	32	1.844	9.013
GRP 10	27	1.815	15.770
GRP 11	22	11.636	8.330
GRP 12	30	-6.533	10.368
GRP 13	29	3.379	9.447
GRP 14	27	.037	7.537
GRP 15	32	5.813	10.247
GRP 16	26	1.654	5.564
<hr/>			
Total Males	467	1.002	9.957
<hr/>			
GRP 17	29	4.034	8.748
GRP 18	31	-3.774	10.029
GRP 19	35	.743	11.738
GRP 20	25	-7.480	6.131
GRP 21	21	6.619	8.535
GRP 22	24	.458	4.530
GRP 23	34	-8.971	9.453
GRP 24	30	7.667	10.087
GRP 25	29	13.034	11.337
GRP 26	30	7.667	10.087
GRP 27	35	5.714	9.773
GRP 28	30	-1.267	11.212
GRP 29	27	-1.444	9.561
GRP 30	24	-4.333	7.329
GRP 31	28	-10.071	9.595
GRP 32	22	7.227	6.362
<hr/>			
Total Females	454	.665	11.183
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Total Grand Mean	921	.836	10.575



recruits expressed their satisfaction with different-sexed leaders.

Examination of the means contained in Table 4 can be used in the interpretation of the grand mean and interaction tests. The satisfaction with supervision grand mean discloses that recruits were more satisfied with female leaders than they were with male leaders (.836) indicating recruit differences in satisfaction with supervision. The sex group means support the nonsignificant test of interaction because both male (1.002) and female (.665) recruits expressed a greater satisfaction with female leaders.

Thus, Hypothesis II, which states that different-sexed recruits would report differences in satisfaction with leadership of different-sexed leaders, is not supported by the findings from this field study.

#### Hypothesis III:

The relationship between perceived differences in leadership and expressed differences in satisfaction with leadership of different-sexed leaders as a function of the sex of the recruit was examined by using the Guilliksen-Wilkes procedure (1955). This technique was developed for "large" samples and its use is appropriate in situations where a set of "tests" is administered to several different groups and one desires to determine if the results obtained in the different groups may be regarded as being essentially equivalent. The procedure allows the test of three successive hypotheses where if one is "failed,"

successive hypotheses can not be tested. The first test is whether the variances associated with a specific dependent variable are homogeneous across treatments (sex of recruit). If homogeneity of error is rejected, then the other two tests are invalid. The second and third tests are homogeneity of regression slope and equality of regression intercepts respectively. It should be noted that the null hypothesis in any one of these tests is that of group equivalence. Furthermore, the intercept hypothesis in the Guilliksen-Wilkes is the covariance version of the test of interaction, while the pooled-group intercept hypothesis represents the covariance version of the grand mean test.

The Guilliksen-Wilkes test yielded no differences between the recruit sex groups on the error, slope and intercept hypothesis. The nonsignificant intercept result is in accord with the test of interaction discussed in Hypothesis II. In both cases when expressed differences in satisfaction with leadership of different-sexed leaders is investigated, no variation as a function of the sex of the recruit is to be found. The pooled-group intercept results also agree with the results of the grand mean test analyzed in Hypothesis II. The pooled-group test of interaction is significant ( $p \leq .001$ ) indicating that recruits expressed a difference in their satisfaction with male and female leaders after the effects of Initiating Structure and Consideration were controlled. Examination of the

residualized grand mean aids in the interpretation of the pooled-group test which indicates that male and female recruits were more satisfied with their female leaders (1.121).

Table 5 summarizes the correlations between Consideration, Initiating Structure, and Satisfaction with Supervision for male recruits, female recruits, and the total group. An examination of these correlations by using the multi-stage Bonferroni technique (Larzelere and Mulaik, 1977) disclosed that all of these correlations were significant ( $p \leq .05$ ). In addition, the multiple correlation between the Satisfaction with Supervision dependent variable and the Consideration and Initiating Structure independent variables was .71.

In summary, the results related to Hypothesis II and III indicate that the difference in satisfaction with leadership as expressed by recruits of different sex is not modified by the recruits' perception of that leadership and that different-sexed recruits do not report differences in satisfaction with leadership of different-sexed leaders because both are more satisfied with female leadership.

Table 5. Male Recruit, Female Recruit, and Total Group Intercorrelations of Consideration (FC-MRC) Initiating Structure (FS-MRS) and Satisfaction with Supervision (FST-MRST) Difference Scores.

	Consideration	Structure	Satisfaction
Consideration	1.00	.49	.65
Structure	.49	1.00	.39
Satisfaction	.65	.39	1.00
Consideration	1.00	.34	.75
Structure	.34	1.00	.30
Satisfaction	.75	.30	1.00
Consideration	1.00	.38	.71
Structure	.38	1.00	.33
Satisfaction	.71	.33	1.00

## CHAPTER VIII

### DISCUSSION AND IMPLICATIONS

#### Perception Results

In general, the results support the hypothesis of differences in the perception of different-sexed leaders as a function of the sex of the recruit. Probably the most interesting results are the ones associated with the test of interaction. They disclosed that recruits perceived leaders of the other sex as being more considerate. Two possible explanations based on sex role theory (Lockheed and Hall, 1976) might be used to explain these perceptual differences. The first explanation states that perceptual differences are based on "true" sex differences which result from some general or more basic difference between the sexes. In other words, perceptual differences are thought to be the result of actual behavioral differences between the sexes which could either be innate or socialized at an early stage of development. The second explanation asserts that perceived leadership differences between male and female leaders may be the result of situation-specific role norms. This suggests that perceived leadership differences between male and female leaders might be attributed to situational differences. For example females may be reticent in the presence of males, but be quite talkative in an all

female setting.

The simulation and field studies that have investigated the sex differences in leadership phenomenon differentially support the above propositions. The field studies fail to support the "true" sex difference explanation because the majority have found no perceptual or behavioral differences in leadership (Roussell, 1974; Day and Stogdill, 1972; Bartol and Wortman, 1975). On the other hand, the simulation studies seem to support the explanation because they have provided evidence indicating the possibility of behavioral and perceptual differences between the sexes (Strodbeck and Mann, 1956; Bond and Vinacke, 1961; Vinacke, 1959; Saskin and Maier, 1970). For the most part, these studies suggest that males are more instrumental (task or structure) and that females are more expressive (socioemotional or consideration) in their handling of leadership responsibilities. The present field study differs from the others because perceptual differences were found, that is different-sexed recruits perceived leadership characteristics of different-sexed leaders differentially. It should also be noted that neither simulation nor field studies have used the sex role situational approach as an explanatory tool.

The findings of the present study have been evaluated in terms of the two sex role explanations. The explanation based on situation specific norms asserts that leadership behavior, and the resultant perceptions of that behavior, is mainly determined by the situation. Bartol and Wortman (1975)

alluded to this explanation in their discovery that hospital employees perceived female superiors as higher than male superiors on Initiating Structure behavior. They felt that the leadership positions that they were studying, nursing and dietetics, entailed a number of safeguards and other procedures which could have led to the greater Initiating Structure behavior on the part of female hospital employees. The behaviors required of Army drill instructors and the general environment surrounding basic military training may be considered quite structured. Thus, the situationalists would predict that both male and female leaders should have been perceived as being structured by all the recruits. However, in the present study recruits perceived their like-sexed leader as being structured, while the prediction did not hold for the opposite sexed leader. So it seems that the situation-norm explanation cannot fully explain the significant interaction disclosed in the analysis of Hypothesis 1. The "true" sex difference proposition does not adequately explain the results since every individual should have perceived their male leaders as being more structured than their female leaders and their female leaders as being more considerate than their male leaders. This face-valid prediction seems reasonable in light of the simulation studies which have stressed that men and women do behave differently and are perceived as having different leadership styles (Bond and Vinacke, 1961; Saskin and Maier, 1970). These studies

have emphasized that men and women play different but complementary leadership roles wherein the females are more considerate in their leadership style and males are more structured. The data from the present study support the premise of the "true" sex difference approach because perceptual differences were found. However, the results do not support the traditional view that females can be expected to assert consideration leadership while males would be expected to assert more structured behavior. In the context of the present study, male recruits perceived their female leaders as being more considerate and the male leaders were perceived as being more structured, while female recruits perceived their female leaders as being more structured and their male leaders as being more considerate.

Neither sex role explanation explains fully the findings related to Hypothesis I. An alternative approach might be that both explanations contribute - but to segments of the interaction. The focus of the sex role explanation on situation-specific norms helps explain the recruit results in like-sexed leader. When dealing with like-sexed recruits leader behaviors might be controlled to a greater extent by the actual situation conditions. Basic training is a highly structured situation which might explain why recruits perceived their like-sexed leader as being more structured than their opposite-sexed leader. The "true" sex differences premise might explain the opposite-sexed recruit results.



Recruits perceived opposite-sexed leaders as being more considerate than their like-sexed drill instructor which implies that stereotypic behaviors could dominate in these types of situations. It is highly possible that alternative behavioral strategies might be employed by different-sexed leaders when dealing with different-sexed recruits. Note further that this discussion relies on the assumption that perceptions are related to actual behaviors which may not always be the case.

Several factors might have contributed to the above results. The relative inexperience of the drill sergeants in leading opposite-sexed recruits might have caused them to feel more "comfortable" in structuring the activities of their like-sexed recruits. This behavior might have been reinforced by the Army's use of a mixed (male/female) cadre for leadership purposes which might have encouraged the cadre to "complement" each others leadership roles. In other words, both male and female leaders might have decided to structure the majority of their like-sexed recruits behavior, while the other leaders provided opposite-sexed recruits with consideration types of leadership. It would be interesting to have a replication of the present study where each platoon would have one leader, preferably of the opposite sex. This would eliminate the opportunity for any compensatory types of behaviors on the part of the leaders and provide a clearer understanding of the types of behaviors employed.

### Satisfaction Results

Hypothesis II and III will be discussed jointly because their results are so closely related. Both hypotheses investigated whether differences in the satisfaction with leadership of different-sexed leaders was a function of the sex of the group member. Hypothesis III differed from Hypothesis II because the effects of recruit leadership perception (i.e., Consideration and Initiating Structure) were controlled in an analysis of covariance. This statistical control adjusted for possible sources of bias in the study (Snedecor and Cochran, 1969). More specifically, if satisfaction with supervision was linearly related to leadership perceptions, group differences found in satisfaction with leadership might be due to perceptual differences. Therefore, Hypothesis III was conducted as an extension of Hypothesis II, by statistically controlling for the possible contaminating effects of perception of leadership on satisfaction with supervision.

The studies that have investigated the effects of subordinate and leader sex on subordinate satisfaction with leadership have supported the hypothesis of no significant differences (Maier, 1970; Bartol, 1974; Bartol, 1975; Bartol and Wortman, 1975). The present field study failed to support the hypothesis that different-sex recruits would report differences in satisfaction with leadership of different-sexed leaders, that is there was no interaction between sex of recruit and sex of leader or satisfaction with leadership.

However, both analyses support the notion that recruits expressed differences in satisfaction with leadership of different-sexed leaders, with recruits of both sexes more satisfied with their female leaders. Since difference scores were used in the original analysis, only evidence for directional differences in satisfaction with supervision was available. Because significant directional differences do not convey any information concerning the difference in magnitude between the variables, an analysis of recruit raw score differences was undertaken. An examination of the satisfaction with male and female leader raw scores disclosed that recruits were more satisfied with their female leaders (49.38 vs. 36.27). Since the maximum possible score on the JDI Satisfaction With Supervision scale is 54, it seems that recruits were moderately satisfied with their male leaders but highly satisfied with their female leaders.

Several explanations might account for the results associated with Hypothesis II and III. Male recruits might have been more satisfied with female leaders because their stereotypes of females could have dissipated after interacting with them for twelve weeks. This interpretation is consistent with indications in general surveys that actual experience in working for female supervisors has a tendency to reduce negative attitudes toward females as leaders. On the other hand, female recruit satisfaction with female leadership might be the result of met or reinforced expectations about female leaders. Females entering the armed

services might possess certain positive expectations concerning general female capabilities. Thus, a feeling of satisfaction with female leadership might be engendered if these expectations were positively reinforced over the twelve week training program.

The Hawthorne effect might be used as an additional explanation for the satisfaction differences. This effect refers to evidence that employees may respond to change (or perceived change) in their work situation, or simply to the fact that they were chosen for the experiment. Recruits were aware that female cadre members were being used for the first time in the history of the Army and might have suspected that they were involved in an experiment evaluating female leadership. Furthermore, one might assume that male and female recruits had relatively little experience with female leadership as civilians. Therefore, both the perception of being involved in an experiment and the novelty of female leadership might have caused the expressed satisfaction with female leadership.

The way the JDI Satisfaction with Supervision scale was used in the present study might have contributed to the results. The scale was originally developed as a measure of satisfaction with general leadership. In the present study, recruits were asked to rate each leader on an individual basis on both the leadership perception and satisfaction with supervision scales. Therefore, the effect of using the JDI scale to assess satisfaction with a specific leader

rather than general leadership is open to question. The scales of the JDI (pay, coworkers, promotion, etc.) have been traditionally administered at the same time so that satisfaction with different facets of the job situation could be gathered. Since only one JDI scale was administered in this study, recruits were not given the opportunity to express their satisfaction with different aspects of their job. It might be that satisfaction or dissatisfaction with other facets of the job might have contaminated the Satisfaction with Supervision results because of the recruits inability to express their opinion on these other facets.

The limitations just discussed were made in reference to specific hypotheses but other general thesis problems also need discussion. A number of sampling problems were present in the study. Since the author had no control over the composition of the recruit population and the subsequent assignment of recruits to platoons, the sampling procedure might not have been completely random. Furthermore, it will be recalled that 26 platoons had two male leaders while six platoons had one male leader. Since the author was unable to designate which male drill sergeant was to be rated first by the recruits having two male drill sergeants, it was assumed that the self-selection made by the recruits was a non-systematic process. Based on this self-selection assumption the author selected a random male drill sergeant for those platoons having two male drill sergeants and used this score in all of the difference score computations. So the

assumption of a non-systematic process and the selection of a random male score by the author might also be questioned because of inadequate randomization.

There is also the question of whether the appropriate unit of analysis is the recruit or the platoon. All of the analyses discussed in this study employed the recruit as the unit of analysis. The intact group analysis was not used because each platoon was rating different targets (leaders) and the author was unable to designate which male drill sergeant was to be rated first by recruits having two male drill sergeants. Therefore, if one attempted to use average platoon mean vectors to perform an intact group analysis, one would never be sure of what was being analyzed.

#### Implications of this Study

The major conclusion of this study with respect to the perception of leadership hypothesis is that stereotypic behaviors should not be generalized without prior investigation. It might be possible that alternative behavioral strategies are employed by different-sexed leaders when dealing with different-sexed recruits.

The findings of this study differ from previous research, indicating the need for replication. Researchers of leadership perceptions and satisfaction with leadership perceptions and satisfaction with leadership should note the possibility of situational differences and interpret their results in light of any differences.

APPENDIX A  
QUESTIONNAIRE

Now, think about how frequently ONE of your  
MALE DRILL SERGEANTS did the following.  
DECIDE whether he always, often, occasionally,  
seldom, or never acted as described by the  
phrase.

4--Always  
3--Often  
2--Occasionally  
1--Seldom  
0--Never

DRAW A CIRCLE around ONE of the numbers after  
each phrase.

Your Male Drill Sergeant did the following:

BATTALION	1.	Did personal favors for group members.....	4	3	2	1
	2.	Made his attitude clear to the group.....	4	3	2	1
	3.	Did little things to make it pleasant to be a member of the group.....	4	3	2	1
	4.	Tried out his new ideas with the group.....	4	3	2	1
	5.	Acted as a real leader of the group.....	4	3	2	1
	6.	Was easy to understand.....	4	3	2	1
	7.	Ruled with an iron hand.....	4	3	2	1
	8.	Pound time to listen to group members.....	4	3	2	1
	9.	Criticized poor work.....	4	3	2	1
	10.	Gave advance notice of changes.....	4	3	2	1
COMPANY	11.	Spoke in a manner not to be questioned.....	4	3	2	1
	12.	Kept to himself.....	4	3	2	1
	13.	Looked out for the personal welfare of individual group members.....	4	3	2	1
	14.	Assigned group members particular tasks.....	4	3	2	1
	15.	Was a spokesman of the group.....	4	3	2	1
	16.	Scheduled the work to be done.....	4	3	2	1
	17.	Maintained definite standards of per- formance.....	4	3	2	1
	18.	Refused to explain his actions.....	4	3	2	1
	19.	Kept the group informed.....	4	3	2	1
	20.	Acted without consulting the group.....	4	3	2	1
PLATOON	21.	Backed up the members in their actions.....	4	3	2	1
	22.	Emphasized meaning of deadlines.....	4	3	2	1
	23.	Treated all group members as his equals.....	4	3	2	1
	24.	Encouraged the use of uniform procedures.....	4	3	2	1
	25.	Got what he asked for from his superiors.....	4	3	2	1
	26.	Was willing to make changes.....	4	3	2	1
	27.	Made sure that his part of the organiza- tion was understood by group members.....	4	3	2	1
	28.	Was friendly and approachable.....	4	3	2	1
	29.	Asked that group members follow standard rules and regulations.....	4	3	2	1
	30.	Failed to take necessary action.....	4	3	2	1
SSAN	31.	Made group members feel at ease when talk- ing with them.....	4	3	2	1
	32.	Let group members know what was expected of them.....	4	3	2	1
	33.	Spoke as a representative of the group.....	4	3	2	1
	34.	Put suggestions made by the group into operation.....	4	3	2	1
	35.	Saw to it that group members were work- ing up to capacity.....	4	3	2	1
	36.	Let other people take away his leadership in the group.....	4	3	2	1
	37.	Got his superiors to act for the welfare of the group members.....	4	3	2	1
	38.	Got group approval in important matters before going ahead.....	4	3	2	1
	39.	Saw to it that the work of group members was coordinated.....	4	3	2	1
	40.	Kept the group working together as a team.....	4	3	2	1

FOR THE REMAINING PHRASES, CIRCLE  
THE BEST ANSWER (U = Uncertain)

41.	Asked my advice.....	Yes	U	No
42.	Was hard to please.....	Yes	U	No
43.	Was unpolite.....	Yes	U	No
44.	Praised me .....	Yes	U	No
45.	Was tactful.....	Yes	U	No
46.	Was influential.....	Yes	U	No
47.	Was up-to-date.....	Yes	U	No
48.	Didn't supervise enough.....	Yes	U	No
49.	Was quick tempered.....	Yes	U	No
50.	Told me where I stood.....	Yes	U	No
51.	Was annoying.....	Yes	U	No
52.	Was stubborn.....	Yes	U	No
53.	Knew his job well.....	Yes	U	No
54.	Was bad.....	Yes	U	No
55.	Was intelligent.....	Yes	U	No
56.	Left me on my own.....	Yes	U	No
57.	Was around when needed.....	Yes	U	No
58.	Was lazy.....	Yes	U	No



Now, think about how frequently the  
OTHER MALE DRILL SERGEANT did the  
following.  
DECIDE whether he always, often,  
occasionally, seldom, or never acted  
as described by the phrase.  
DRAW A CIRCLE around ONE of the  
numbers after each phrase.  
Your OTHER Male Drill Sergeant did the  
following.

4--Always  
3--Often  
2--Occasionally  
1--Seldom  
0--Never

BATTALION	1.	Did personal favors for group members.....	4	3	2	1
	2.	Made his attitude clear to the group.....	4	3	2	1
	3.	Did little things to make it pleasant to be a member of the group.....	4	3	2	1
	4.	Tried out his new ideas with the group.....	4	3	2	1
	5.	Acted as a real leader of the group.....	4	3	2	1
	6.	Was easy to understand.....	4	3	2	1
	7.	Ruled with an iron hand.....	4	3	2	1
	8.	Found time to listen to group members.....	4	3	2	1
	9.	Criticized poor work.....	4	3	2	1
	10.	Gave advance notice of changes.....	4	3	2	1
	11.	Spoke in a manner not to be questioned.....	4	3	2	1
	12.	Kept to himself.....	4	3	2	1
	13.	Looked out for the personal welfare of individual group members.....	4	3	2	1
	14.	Assigned group members particular tasks.....	4	3	2	1
	15.	Was a spokesman of the group.....	4	3	2	1
	16.	Scheduled the work to be done.....	4	3	2	1
COMPANY	17.	Maintained definite standards of per- formance.....	4	3	2	1
	18.	Refused to explain his actions.....	4	3	2	1
	19.	Kept the group informed.....	4	3	2	1
	20.	Acted without consulting the group.....	4	3	2	1
	21.	Backed up the members in their actions.....	4	3	2	1
	22.	Emphasized meaning of deadlines.....	4	3	2	1
	23.	Treated all group members as his equals.....	4	3	2	1
	24.	Encouraged the use of uniform procedures.....	4	3	2	1
	25.	Got what he asked for from his superiors.....	4	3	2	1
	26.	Was willing to make changes.....	4	3	2	1
PLATOON	27.	Made sure that his part of the organiza- tion was understood by group members.....	4	3	2	1
	28.	Was friendly and approachable.....	4	3	2	1
	29.	Asked that group members follow standard rules and regulations.....	4	3	2	1
	30.	Failed to take necessary action.....	4	3	2	1
	31.	Made group members feel at ease when talk- ing with them.....	4	3	2	1
	32.	Let group members know what was expected of them.....	4	3	2	1
	33.	Spoke as a representative of the group.....	4	3	2	1
	34.	Put suggestions made by the group into operation.....	4	3	2	1
	35.	Saw to it that group members were work- ing up to capacity.....	4	3	2	1
	36.	Let other people take away his leadership in the group.....	4	3	2	1
	37.	Got his superiors to act for the welfare of the group members.....	4	3	2	1
	38.	Got group approval in important matters before going ahead.....	4	3	2	1
	39.	Saw to it that the work of group members was coordinated.....	4	3	2	1
	40.	Kept the group working together as a team.....	4	3	2	1

FOR THE REMAINING PHRASES, CIRCLE  
THE BEST ANSWER (U = Uncertain)

41.	Asked my advice.....	Yes	U	No
42.	Was hard to please.....	Yes	U	No
43.	Was unpolite.....	Yes	U	No
44.	Praised me .....	Yes	U	No
45.	Was tactful.....	Yes	U	No
46.	Was influential.....	Yes	U	No
47.	Was up-to-date.....	Yes	U	No
48.	Didn't supervise enough.....	Yes	U	No
49.	Was quick tempered.....	Yes	U	No
50.	Told me where I stood.....	Yes	U	No
51.	Was annoying.....	Yes	U	No
52.	Was stubborn.....	Yes	U	No
53.	Knew his job well.....	Yes	U	No
54.	Was bad.....	Yes	U	No
55.	Was intelligent.....	Yes	U	No
56.	Left me on my own.....	Yes	U	No
57.	Was around when needed.....	Yes	U	No
58.	Was lazy.....	Yes	U	No

Now, think about how frequently your Female Drill Sergeant did the following. DECIDE whether she always, often, occasionally, seldom, or never acted as described by the phrase. DRAW A CIRCLE around one of the numbers after each phrase.

4--Always  
3--Often  
2--Occasionally  
1--Seldom  
0--Never

Your Female Drill Sergeant did the following:

BATTALION

COMPANY

PLATOON

SSAN

1. Did personal favors for group members..... 4 3 2 1
2. Made her attitude clear to the group..... 4 3 2 1
3. Did little things to make it pleasant to be a member of the group..... 4 3 2 1
4. Tried out her new ideas with the group..... 4 3 2 1
5. Acted as the real leader of the group..... 4 3 2 1
6. Was easy to understand..... 4 3 2 1
7. Ruled with an iron hand..... 4 3 2 1
8. Found time to listen to group members..... 4 3 2 1
9. Criticized poor work..... 4 3 2 1
10. Gave advance notice of changes..... 4 3 2 1
11. Spoke in a manner not to be questioned..... 4 3 2 1
12. Kept to herself..... 4 3 2 1
13. Looked out for the personal welfare of individual group members..... 4 3 2 1
14. Assigned group members to particular tasks..... 4 3 2 1
15. Was the spokesman of the group..... 4 3 2 1
16. Scheduled the work to be done..... 4 3 2 1
17. Maintained definite standards of performance..... 4 3 2 1
18. Refused to explain her actions..... 4 3 2 1
19. Kept the group informed..... 4 3 2 1
20. Acted without consulting the group..... 4 3 2 1
21. Backed up the members in their actions..... 4 3 2 1
22. Emphasized the meeting of deadlines..... 4 3 2 1
23. Treated all group members as her equals..... 4 3 2 1
24. Encouraged the use of uniform procedures..... 4 3 2 1
25. Got what she asked for from her superiors..... 4 3 2 1
26. Was willing to make changes..... 4 3 2 1
27. Made sure that her part in the organization was understood..... 4 3 2 1
28. Was friendly and approachable..... 4 3 2 1
29. Asked that group members follow standard rules and regulations..... 4 3 2 1
30. Failed to take necessary action..... 4 3 2 1
31. Made group members feel at ease when talking with them..... 4 3 2 1
32. Let group members know what is expected of them..... 4 3 2 1
33. Spoke as the representative of the group..... 4 3 2 1
34. Put suggestions made by the group into operation..... 4 3 2 1
35. Saw to it that group members were working up to capacity..... 4 3 2 1
36. Let other people take away her leadership in the group..... 4 3 2 1
37. Got her superiors to act for the welfare of the group members..... 4 3 2 1
38. Got group approval in important matters before going ahead..... 4 3 2 1
39. Saw to it that the work of group members was coordinated..... 4 3 2 1
40. Kept the group working together as a team..... 4 3 2 1

FOR THE REMAINING PHRASES, CIRCLE THE BEST ANSWER (U = Uncertain)

41. Asked my advice..... Yes U No
42. Was hard to please..... Yes U No
43. Was unpolite..... Yes U No
44. Praised me..... Yes U No
45. Was tactful..... Yes U No
46. Was influential..... Yes U No
47. Was up-to-date..... Yes U No
48. Didn't supervise enough..... Yes U No
49. Was quick-tempered..... Yes U No
50. Told me where I stood..... Yes U No
51. Was annoying..... Yes U No
52. Was stubborn..... Yes U No
53. Knew her job well..... Yes U No
54. Was bad..... Yes U No
55. Was intelligent..... Yes U No
56. Left me on my own..... Yes U No
57. Was around when needed..... Yes U No
58. Was lazy..... Yes U No

## APPENDIX B

## APPENDIX B

## LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

Consideration and initiating structure were the two leadership dimensions that were measured by the Leader Behavior Description Questionnaire. These dimensions were isolated by the Ohio State leadership studies program and have been widely used to study their effects upon subordinate satisfaction, performance, and other criteria. Although this scale has been widely used, several studies have been written which critically review the research and psychometric limitations of the LBDQ questionnaire.

Review of certain research limitations has been undertaken by some investigators (Fleishman, 1973; Kerr, Shriesheim, Murphy, Stogdill, 1974; Korman, 1966; Kerr and Schriesheim; 1974). Probably the most critical paper reviewing the consideration-initiating structure literature was one by Korman (1966), where he enumerated five major deficiencies in the existing research:

- (1) . . . a systematic conceptualization of situational variance as it might relate to leadership behavior (is needed) and a research program designed to test derivations from such a conceptualization so that direction might be given to the field (p. 355)
- (2) . . . most of the correlations are insignificant for both variables . . . the results . . . for "Initiating Structure" are quite inconsistent and no discernible pattern appears except for the prevalence of low correlations. Studies of the Leader

- Behavior Description Questionnaire tend to show a slightly more consistent pattern of consideration being related to effective performance positively and Initiating Structure negatively, but there is a great degree of inconsistency (p. 354).
- (3) Similarly, the tendency to design studies where the same people make both predictor and criterion ratings is a problem here also since, again, the rater might distort one (or both) of his perceptions in order to attain a more balanced cognition (p. 354).
  - (4) . . . there is very little evidence that . . . scores . . . are predictive of later effectiveness and/or satisfaction criteria. The writer was unable to locate any studies in the literature where consideration and/or Initiating Structure were experimentally varied in order to determine criterion outcomes, and there are only two predictive field studies (is leader behavior the cause of subordinate outcomes or the result?) (pp. 354-355).
  - (5) The major problem . . . concerns the specification of those score ranges on these scales which are unrelated to criterion variance and those score ranges which are related. Yet, if the curvilinearity hypothesis is to be of value . . . it is of extreme importance to determine those scores which make a difference (pp. 359-360).

Kerr and Schriesheim (1954) reviewed a series of studies to determine whether Korman's criticisms have been met. They found that many of the criticisms have been addressed. Criticism one was discussed in a review by Kerr et al. (1974) which identified three major situational implications which moderate the relationships between leader behavior predictors and numerous criteria: subordinate considerations, supervisor consideration, and task considerations. They felt that two was not valid today because many of the studies since the Korman review have been found statistically significant. This reversal in results might be related to the increased utilization and measurement of situational

variables and/or the decreasing use of "averaged" data. Kerr and Schriesheim determined that criticism 3 remains true today but is less acute for a number of reasons: performance data is not often obtained from the same individuals who provide leader behavior descriptions, subordinate satisfaction can be obtained from the subordinates while perceptions of leadership attitudes can be obtained from the leader (LOQ), objective indicators of dissatisfaction (absence, lateness, grievance) may be employed as dependent variables, and the use of moderator variable designs. Little advancement has been made with criticism 4. Both longitudinal (i.e., correlational) studies (Cummings, 1972; Green, 1973) and experimental studies (Dawson et al., 1972; Lowin and Craig, 1968; Lowin et al., 1969; Hand and Slocum, 1972) have failed to disclose the nature of the cause and effect relationships between leader behavior variables and various criterion measures. The problems associated with criticism 5 have not been dealt with.

Along with the research shortcomings discussed below, several authors have discussed the psychometric properties of the Leader Behavior Description Questionnaire (Schriesheim and Kerr, 1974). Schriesheim and Kerr (1974) reviewed the evidence dealing with the validity, reliability, and scaling characteristics of several versions of the Ohio State Leadership questionnaires: Leadership Opinion Questionnaire (LOQ), Leadership Behavior Description Questionnaire (LBDQ-early, LBDQ-revised), and the Supervisory Behavior Description

Questionnaire (SBDQ).

Content validity refers to the extent to which a specified domain of content is sampled (Nunnally, 1967). Schriesheim and Kerr found that the LBDQ includes items measuring behavior extraneous to the leadership domain. They also found that the scale sometimes results in low and inconsistent correlation coefficients with various criteria.

Construct validity refers to the degree individuals possess certain traits or qualities (constructs) assumed to be present in their test performance (Blum and Naylor, 1968). This type of validity is normally demonstrated through a systematic investigation where the relationship between the instrument in question and various related concepts is assessed (Nunnally, 1967). No such validation program has been implemented utilizing the Ohio State Leadership scales. Campbell and Fisk (1959) have suggested another construct validation technique which has been labeled the multimethod-multitrait approach. This procedure is undertaken to determine the convergent and discriminant validity of instruments. No studies have been undertaken to determine these validities either.

It appears that the LBDQ has concurrent validity when employed in moderator variable designs (Kerr et al., 1974). Predictive validity of the scales has not been adequately investigated.

Research undertaken to assess the reliability of the Ohio State leadership scale has been minimal. The internal consistency reliabilities of the scale are slightly higher than .8 (Stogdill, 1963). No evidence of test-retest reliability for the LBDQ has been found. Green (1974) conducted a longitudinal analysis of various leader-subordinate relationships and employed one, two, and three month intervals. He found that reliability coefficients for structure varied between .57 and .72 while those for consideration varied between .71 and .79.

Certain extraneous response determinants and other types of contaminants have not been adequately examined. Both social desirability and leniency may affect the manner in which leaders are described. Social desirability refers to a tendency to describe oneself in socially desirable terms. Leniency refers to the tendency of those persons describing others to attribute socially desirable rather than undesirable traits to them. One might expect subordinates that like their superiors to describe them more leniently. The tendency for certain LBDQ scales to contain items skewed toward the more socially acceptable portion of each dimension indicates the possibility of contamination. Several other studies investigating the relationship between more socially desirable items and leader-liking scores have been found to be positively correlated (Fleishman, Harris, and Burt, 1955; Hemphill and Coons, 1950, 1957).



These results might also indicate the presence of contamination.

Another possible contaminant is the halo effect. This refers to the inability of raters to properly differentiate between individual dimensions from overall evaluations of stimulus objects (Guilford, 1954). Fleishman et al. (1955) has suggested that the greater the halo tendency the higher the correlation between dimension scores and the lower the independence of the dimensions. Weissenberg and Kavanaugh (1972) found that 37 or 48 intercorrelations (77%) were significant. Hemphill and Coons (1957) have stated that:

. . . lack of independence between . . . variables is probably related to the difficulty of making statements about the frequency with which a leader engages in a significant item of behavior without, at the same time, evaluating his behavior (p. 54).

Schriesheim and Kerr (1974) suggest that it may be impossible to eliminate or reduce the halo tendency and develop truly independent dimensions.

An agreement response tendency may be another possible problem with the Ohio State scales. This difficulty can be normally eliminated by writing reflected or reversed items (Nunnally, 1967). The LBDQ does not contain these types of items.

The Ohio State scale may also suffer from the scaling difficulty of unequal response intervals. Hemphill and Coons (1950, 1957) developed the response categories (always, often, occasionally, seldom, never) by utilizing a paired comparison

and a distribution of model ranks procedure. This scaling method should produce appropriate intervals but some empirical research has indicated that the intervals may be unequal (Hakel, 1968).

The shortcomings reported in this brief review should not render all the research using the LBDQ worthless. Significant relationships between leader behavior and various types of performance criteria have been found even though many of the psychometric difficulties should have reduced the probability of their occurrence. Although the scale does identify behaviors of considerable importance to leadership research and they do remain superior to other available instruments, further research and development is necessary (Refer to Table for a summary of the psychometric properties).

Table 6. Summary of Instrument Properties<sup>a</sup>

Property	LBDQ
Internal consistency reliability	Acceptable
Test-retest reliability	Unknown
Content validity	Unacceptable
Construct validity	Unknown
Convergent and discriminant validity	Unknown
Experimental validity	Unknown
Concurrent validity	Acceptable
Predictive validity	Unknown
Absence of response skewedness	Unacceptable
Absence of social desirability and leniency	Unknown
Scale independence and lack of halo	Unacceptable
Reflected items (partial control of agreement response tendency)	Unacceptable
Equal response intervals	Unknown
Distinction between frequency and magnitude	Acceptable

<sup>a</sup>Table entries were extracted from Schriesheim and Kerr, 1974.

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